

1. The Moon

THE MOON
IS THE IMAGE OF THE EARTH,
AND IS NOT A SOLID BODY.

No. 1.

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BY

THE LONGITUDE.

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PREFACE.

THAT there is yet ample room for all to take an interest in an endeavour to ascertain what the Moon really is, will be evident from the circumstance, that the greatest authorities of the day have still various opinions respecting our Satellite; one and all, however, seem to consider it a solid body.

The great men alluded to argue thus:—one affirms that the Moon is not inhabited, but that some of its mountains resemble those on the Earth; another writer denounces the idea that the Moon is not inhabited, and affirms that it is peopled; a third authority opposes this view, and maintains that the Moon is not inhabited; and a fourth great man observes, “if there be inhabitants in the Moon,” implying thereby the possibility of such a thing; although his own belief is, that the Moon is not peopled with beings such as are on Earth.

To these views, and to the opinions of the great and learned generally, who believe that the Moon is a solid body, let all bow with respect; but at the same time let not examination of the Moon cease; for not the slightest injury to science can arise by practical astronomers directing their attention to our Satellite, to ascertain whether it is, or is not, the image of the Earth.

THE MOON IS THE IMAGE OF THE EARTH,

&c., &c.

It might, if hastily considered, startle many to think that the world should now, in the year 1856, be told that the Moon is the mere image of the Earth, and that it is not a solid body ; but on calm deliberation it will occur to the thoughtful portion of mankind, that it was impossible for people to see any resemblance to the earth in the Moon, till they knew what the surface of our globe was like ; and till the discovery of North and South America, such knowledge existed not ; further, much of the outline of the old world was, no doubt, for long after the time of the flood, ill-defined and but imperfectly understood ; if this be admitted, that which is seen in the Moon, could not till lately, comparatively speaking, have been made out to be a picture of the surface of the Earth.

That the Moon is a picture of the Earth, that

it is the image of our planet, will be explained in the course of this article, in a manner which, it is trusted, may prove satisfactory and conclusive.

At what precise period the Moon was first deemed to be a solid body, is at this moment not remembered; but it may be a question whether it has ever and always been considered a solid mass; however this may be, philosophers and astronomers have, for some time past, handed it down as a principle scarcely to be questioned that the Moon is a solid substance.

Ere long, the Moon, instead of being looked upon as an unmeaning, separate world, will be found to be a lamp in the heavens to show mankind how, and in what way, the Earth is moving; in other words, it will prove to be the Earth's indicator.

Till our world had been created, our Moon could not have existed; this is a point on which mankind will delight to ponder.

It is universally understood that the Earth has a daily motion on its axis, and it is known also that it has an annual motion in its orbit round the Sun.

The daily motion of the Earth is undisputed, and its annual motion round the Sun is admitted; but the last named is susceptible of an important explanation.

In addition to the daily motion on its axis,

and to an annual motion, the Earth has a distinct monthly motion, which it performs in a spiral path, completing its monthly circuit in what is known as lunar time ; and in such spiral manner, the Earth makes its annual tour round the Sun. That is to say, as the Earth moves on one spiral line or path, its image, the Moon, moves on another corresponding but distinct spiral line or path opposite ; both, however, proceeding in their respective spiral paths to make their monthly tour, and their annual circuit, in the same direction.*

The Moon, it is to be understood, is formed by the figure of the Earth being brought to a focus : thus, when the Earth, in its monthly path, is at its farthest limit from the Sun, its figure is brought to a focus, and we see what is called the new Moon ; and when the Earth, in its monthly spiral path, is at its nearest limit to the Sun, its figure is brought to a focus, and we see what is called the full Moon.

An image of the Earth is ever existing, in the shape of a disc, though it cannot always be seen ; but when visible, for the greater part of each lunar

* When it first occurred to the writer of these lines that the figure of the Earth was brought to a focus which caused its image, "the Moon," it was supposed that the Sun advanced and retired, and so produced the effect ; but, on further consideration, it seemed evident that it was the Earth, and not the Sun, which had what may be termed an additional motion.

month, only a portion is lighted up; the reason why such is the case is easy of explanation.

For example, at the time of the new Moon, the Earth at such period, as already observed, is at its furthest limit from the Sun, in its monthly spiral course; and at an ordinary new Moon, the image is formed so much above or below a direct line from the Sun to the centre of the Earth's spiral monthly path, that it is not visible; however, as the Earth is ever moving, it begins from its most distant point to move spirally in the direction of the Sun, its image at the same time moving correspondingly and spirally away from the Sun; when, after a lapse of between two and three days, a small portion of the disc of the Moon getting clear of the Earth, in an oblique direction, becomes lighted up on the outward edge; thus we see a fine crescent, that is, we see the new Moon; the Earth continuing to move towards the Sun, and its image away from the Sun; at a quarter of a lunar month, half the image is clear of the Earth, and the Moon is said to be in its first quarter, at which stage the Earth and its image cross distantly, in their distinctive paths—the Earth still advancing to, and its image receding from, the Sun; the former at length arrives at its nearest monthly limit to the Sun, its image at its furthest limit from the Sun, when the image becomes the ordinary full Moon.

The Earth, having thus performed half its

monthly journey, begins to move spirally away from the Sun, when its image simultaneously moves spirally towards the Sun, when a portion of the Moon not being clear of the Earth is not lighted up, though the outline is often visible: day by day, less and less of the image is illuminated, till three-quarters of the month has lapsed, when only the outer half of the Moon is seen lighted up, at which stage it is said to be in its last quarter; at which period the Earth and its image again cross each other distantly in their respective paths, the Earth continuing to move away from the Sun, and the image continuing to move towards the Sun till illumination ceases, the oblique direction of its path, under ordinary circumstances, not admitting of even the disc being seen for a short while before new Moon.

Under ordinary circumstances, the Earth and its image run their monthly course in the manner described.

At the time of eclipses, the image is more or less so directly before or behind the Earth that, in the case of new Moon, bright rays of the Sun fall and bear upon the spot where the figure of the Earth is brought to a focus, that is, bear upon the image of the Earth, when a darkness beyond is produced reaching to the Earth, and the Sun becomes more or less eclipsed, and darkness spreads over more or less of the Earth's surface.

In the case of full Moon, the image becomes

more or less dark, from the Earth passing between it and the bright light of the Sun.

The shadow of the Earth—if it be possible for it to fall obliquely upon the image of the Earth—must of itself more or less eclipse the Moon, and in such case the Earth cannot be directly between the Sun and its own image; for when situated partially or fully between the two, it must eclipse its image, whether aided or unaided by what, in common acceptation, is called a shadow.

The Moon, looked upon as a solid body getting between the Sun and the Earth, is believed to produce an eclipse of the Sun, and its shadow, which is supposed to reach the Earth, is believed to place a portion of its surface in darkness. This view of the case is a misconception, if the elucidation above be correct.

It will, under the explanation afforded in this article, be comprehended that for nearly one-half of a lunar month the Moon is before or in front of the Earth: that is to say, before it has reached its first quarter, and after it has reached its last quarter, it is between the Earth and the Sun; and for nearly the other half of the lunar month—that is, after its first quarter and before its last quarter—the Earth is between it and the Sun.

Exactly at the quarters, the Earth and its image are equi-distant, or nearly so, from the Sun; therefore, after new Moon till the first quarter, and

after last quarter, the image of the earth may be said to eclipse itself, more or less; and after the first quarter till full Moon, and after full Moon till the last quarter, the Earth may be said, more or less, to eclipse its image; so, excepting the time when the Moon, under ordinary circumstances, may be full, it is eclipsed, more or less, throughout each month, without the shadow of the Earth aiding in making that portion dark which is not lighted up.

It will happen, that if at the first quarter the Earth should be above, in crossing to the Sun the image will pass below, away from the Sun; at the last quarter in such case, the Moon will cross to the Sun above the Earth, and the Earth will pass below it, away from the Sun, or *vice versa*; the Earth and its image maintaining a corresponding distance in all cases, though at one time, to appearance, they may look closer than at another.

The picture of the Earth in the Moon is easily made out with the naked eye; but it is still more beautifully distinguished with the aid of an opera-glass or an ordinary telescope.

The North Pole of the Earth is over us in the North, and the South Pole is below us; to the people in the South the reverse is the case, as, to them, the South Pole is above and the North Pole below.

The Earth has a certain pitch or inclination of

23 deg. 28 min.: this is caused, not, as has been supposed by some learned writers, to suit the purpose of man, inasmuch as it is imagined that it might have moved in any other way in its orbit without interfering with any known physical law, which is a misconception; for it is the obliquity of the spiral monthly path which compels the earth to move at the angle it does move, and under such law of direction it could not move otherwise than it does move, any more than it could turn on its axis differently to what it does turn, or that it could go round the Sun in a different way to what it does go round.

To be more explicit: if the spiral monthly line or path of the Earth were to be drawn out, the inclination of the Earth would be greater, and its revolution on its axis would be quicker—the day would be shorter, the month would be shorter, and the year would be shorter.

On the other hand, if the spiral monthly line or path were to be compressed, the inclination of the Earth would be less, and days, months, and years, would be longer than they are.

Thus, then, the Earth could not move otherwise than it does move, without a general alteration arising through a pure physical cause.

To return to the pitch of the Earth as we find it; to all in the North, as observed, the North is above, and the South below; when the picture is

beheld, the order of things is reversed; for, in the moon at rising, we see the North low down and the South high up; the outline of the new world will be seen to our right, and an outline of the old world above, and to our left; that is to say, the picture of the Earth is upside down.

All who look at the Moon see, from whatever spot of the Earth they behold it, an image of one half of our planet, that is, see a picture of the Earth measuring 90 deg. in every direction from a centre, such centre being the point of view.

It is to be carefully borne in mind that a full view, or nearly so, of some portion of the half of the Earth presented in the picture will be obtained, while another portion will be seen in plane only; if this be not taken into consideration, the multitude may be misled and disappointed, for the appearance of each full Moon differs.

To explain more fully: sometimes from London, say, all, or almost all, Africa will come in sight, in which case a large portion of the 90 deg. in the opposite direction of such centre will be seen in plane only; and when Africa is seen in plane—that is, when it appears as a thin line or riband—that portion which was seen in plane when it was in full view, will itself be in full view.

The same observation holds good with reference to the right and left of the picture of the Earth: that is to say, when much of North and South

America come in full view, much of the land and water to the left is seen in plane ; and when much on the left is in full view, much on the right of the picture will be seen in plane only.

These changes will be gradual from month to month, or from a long course of years, when viewed from given spots ; but if spectators be on opposite sides of the Earth, the centre of the picture of the half of the Earth seen by each will never be the same.

This can easily be tested, and the scientific world will not be slow in detecting error, or in proving the accuracy of the view entertained.

In the North portion of the World is, comparatively speaking, much land and little water ; the land is to be distinguished from the water by being or appearing to be more highly illuminated ; the water, however, is brightly lighted up, but has a more or less dark appearance, as contrasted with the land, and can readily, in mass, be distinguished from it.

If the Moon could always be seen exactly opposite to the Earth, there would always be a full view of the centre part of the picture by the spectator wherever situated, and the outer rim of the image of the Earth would, to an exact extent all round, be seen in plane ; but since the image of the Earth is not always so seen, the view in full, and the view in plane, is ever changing.

It is not probably with glasses of very high

power, that the picture of the Earth imaged in the Moon will be best seen as a general likeness; but now that attention has been drawn to the subject, known mountain masses on the Earth's surface, seas, lakes, large rivers, gulfs, deserts, &c., in addition to the general outline of land and water, will most likely be identified with facility, by the use of glasses of very high power.

It has been observed by an eminent writer of the present century, that there is reason to believe in the existence of a resisting medium, and that, sooner or later, all the planets of our system must fall into the Sun. This view of the effect of a resisting medium is apparently a misconception; for beyond doubt, a resisting medium exists to a considerable extent, but its effect is to retard the Earth in its daily, monthly, and annual motion only, compelling it to be a year in going round the Sun, and thereby being and forming a portion of that physical law which governs the movement of our planet; so that, as far as man has reason to believe, the resisting medium will never destroy the Earth by forcing it closer to the Sun, whereas, without the existing resisting medium, the world, viewed as our Earth, could not be.

It is admitted by all astronomers of late, if not of old, that the Earth has a shadow, and that it produces an effect, and can be seen on the occasion of an eclipse of the Moon.

For a shadow to be seen at about 240,000 miles from the Earth, matter of some kind or sort must exist in space to show it; if it were otherwise, there could be no shadow. Allowing, then, that a shadow of the Earth can be seen, it will doubtlessly be conceded, that matter in space, be it what it may, capable of showing a shadow, must be still more capable of showing an image of the Earth; hence, any difficulty in conceiving how the Moon is formed, and how it is seen, will be dispelled.

It has been remarked above, that at the time of the rising Moon, the North Pole in the picture of the Earth will be seen, if viewed from London, say, in the lower half of the image—that is to say, the picture will be upside down, and the North Pole will hold a relative position to that which the North Pole holds on our planet, including the inclination of the Earth; if, therefore, the Moon be carefully observed, the picture will be seen to turn gradually, till in the morning, or twelve hours after rising, it will have gone half round; so that what was undermost in the image at rising, will be uppermost twelve hours afterwards; this state of the case shows that the likeness of the Earth, viewed from a high latitude, turns half round, more or less, end on, and that the image thus imitates the real motion and movement of the Earth, with unerring precision.

Of the theory now introduced men can judge for

themselves; there is nothing complicated in the matter: so that all who have good eyes, or all who will look at the Moon through an ordinary telescope with care and attention, will see a picture of half of the Earth.

The Moon having been considered a solid body, power has been assigned to it; so that the tides are supposed to obey its commands and to yield to its influence.

As a solid body, too, it is supposed with the Earth to revolve round a common centre, which centre, from the Earth being a large solid mass, and the Moon a small solid mass, is said to be situated somewhere between the centre and the surface of the Earth.

The tides, as the aid of the Moon is not considered necessary to their formation and existence, must be explained.

The highest tides are said to take place at the new and at the full Moon, and there is what is called a tidal wave, which is supposed to flow always in one general direction, from the southward northward, and to return in an underset or otherwise from northward southward.

Under the theory that the Moon is the mere image of the Earth, it has been noticed that at the time of the new Moon the Earth is at its greatest limit, in its monthly spiral path, from the sun; wherefore at the time specified its tendency is to

fly off from the Sun, the consequence of which is higher tides than usual, and the water will be higher on the inner side—that is, on the side towards the Sun—than at the side away from the Sun.

At full Moon the Earth has attained its nearest limit to the Sun, in its monthly spiral path, and its tendency is to fly off in the direction of the Sun; in which case the tides will be higher than usual, but the water will be highest on the inner side, which will be the side away from the Sun.

For about seven days the waters of the ocean will tend spirally from North to South; then they will tend spirally for about seven days from South to North; after which they will again flow spirally from North to South for about seven days, and then again for about seven days they will flow spirally from South to North, and these successions are perpetual; the rotation of the Earth on its axis checks any sudden rush northward or southward of the coming or going waters—the regulating, balancing, and turning point being the centre of the Earth's surface; the waters there, through the cause described and from the rotation of the Earth combined, rise higher than at any other part.

The flow of the tides can be calculated thus: if after new Moon the tendency be from North to South, after the first quarter it will be from South to North; and after full Moon it will be from

North to South, and after the last quarter from South to North, or *vice versa*, according to the period when the test may be commenced; for, following lunar time, the data will be permanent after being once ascertained, which way the water may be tending after any change of the Moon.

As the Moon is not a solid mass, it can have no power to move the Earth, so as to make it turn on or round a centre in space removed from its own proper centre.

It is to be understood, that throughout our system the Sun's bright light is perpetual, and ever existing in space generally.

As an exceptional case, of many inconsiderable cases, it is instanced that when half of the Earth is turned from the Sun it is more or less in its own shadow, and this makes a small portion of light in space not bright to us; but on a clear night, when there are no clouds, the shadow of the Earth is insufficient to make it thoroughly dark; by the aid of clouds, however, night is sometimes made dark to beings on Earth; but such transient events do not prevent the light of the Sun stamping an image of the Earth in space—an image which is ever there, and though it cannot always be seen, still it is there, sometimes fully lighted, sometimes only partially illuminated, and sometimes it is all dark, without being invisible.

It is to be considered, too, when thinking of

night, that the half of the Earth turned from the Sun is not all equally in the same depth of its own shade, for on the one hand it is evening, while on the other it is dawn; so that it is only over an ever-changing centre that the shadow is at all considerable, and its effect projected in a direct line on the image of the Earth, if perceptible at all, might be to cause a small space in the picture to look less bright than some other parts.

The views entertained are placed before the million, and the world at large will be able to see and to judge whether the Moon is a useless solid body continually disturbing the Earth for no conceivable purpose, or whether it is the image of our planet, formed from a simple effect, illuminated more or less, from time to time, by the Sun's ever brilliant light in space, throwing back upon the Earth, through its own gossamer-like shadow, light sufficient to be thankfully received and gratefully appreciated by all mankind.

Having mentioned that the likeness of the Earth can be traced in the Moon, more or less, even with the naked eye, it may be as well to offer a few words as a guide, to enable those who look at the Moon with attention to see some few striking points as a key to the whole picture, which can at leisure be better seen with the aid of glasses capable of assisting the sight.

At times, when the Moon is full and rising, and

the sky unclouded, more or less high up (if viewed from London, say), will be seen a dark streak, the likeness of the Mediterranean; to our left will sometimes be seen another smaller dark streak, shooting off rather upward, the likeness of the Red Sea; below which will be seen another small streak, branching off leftward, and rather downward, the likeness of the Persian Gulf; dark patches, forming as a whole a broad, dark, and darkish path, running down the centre of the Moon, and off to our left, represent the North Atlantic and the North Sea; to our right, and near the centre to the right, is the likeness of the Gulf of Mexico, the Caribbean Sea, with bright lines and spots, the likeness of Cuba, St. Domingo, Jamaica—that is, the Islands thereabout large enough to be visible; below, to the right, is the image of North America, bright, and covering all, or almost all, of the lower right half of the picture; sweeping round to the right, upward and bright, is the upper or North part of South America, beyond which, to the right, can sometimes be seen a roundish, large dark patch, possibly the Bay of Panama, though occasionally it looks as if on the Atlantic side of the globe, which induces a conclusion that it is the great Steppe lying between the Caracas chain of Mountains and the River Orinoco, being a vast desert between the two oceans.

Spain, Portugal, and France, will be seen as a

bright line below the Mediterranean, washed by the ocean. Further below, and leftward also, will be the likeness of other countries of Europe and Asia, and lower still will be Russia; centrically low down, and up under to the other side of the North Pole, will be seen the North Pacific Ocean; above the Mediterranean, and bright, will be more or less of Africa.

With a glass of ordinary power, the North Pole will be very distinct, and the Moon will look like what it is—a pretty map or picture of half of the Earth.

If some of the fixed stars be inhabited, and eyes are good enough to make our Earth and Moon visible, they must both look to be of the same size, and their appearance generally would be that of a double star, and, possibly, of different colours.

Although the Earth is acquitted of being turned about a centre in space, owing to the supposition that the Moon is a solid body, and disturbs the evenness of its way, the Earth, as has been shown, does revolve round a centre in space, but such centre is far removed from its own mass, inasmuch as it takes our planet eight-and-twenty days, or thereabout, to get round such centre.

The monthly motion of the Earth will lead to interesting results, some of which, as they will be useful, will maybe form the subject of another paper.

Although the Moon is deprived of power over the Earth, because not a solid body, still it is by no means unlikely that beings on our planet are affected by the glare or reflection coming from it; for, however exquisitely testing instruments may be made, they must fall far short of delicate fabrics of vitality fashioned by the hand of the Creator; wherefore, although instruments cannot detect that the image of the Earth possesses any influence whatever, the light cast from it to the Earth may so affect some vital matter as to be detrimental to its healthfulness.

It has not been specially noticed that there are sometimes tides higher than those which occur generally, at eclipses, or at the time of an ordinary new or full moon; and as there must be some uncommon agency which produces an uncommon effect, it is but rational to conclude that one or more of the planets, when in a line with the Sun and the Earth, and acting with or against the Sun's power, would produce some extraordinary result; for pulling or attracting the Earth to the tenth of an inch, more or less, out of its ordinary course, would, no doubt, increase the rise of tides; indeed, the presence of a Comet in our system, if near enough to the Earth or to any of the planets to affect it directly or indirectly through them, no matter how slightly, it would cause a higher tide than usual.

It is worthy of attentive consideration, that the

image of an object as seen in water or in a mirror, is as solid in appearance as the object itself; and a careful study of this subject will convince all, that under certain circumstances it is impossible, in seeing both the original and the image, to tell which is the image and which the original.

Common window-glass even, in particular positions, is capable of producing an image of an object, which image has the appearance of being far beyond the glass itself; yet if the glass be removed the image will vanish.

If these things can be on earth, it is easy to imagine that an image of the Earth can be produced in space, although our atmosphere, or the matter in space causing the effect, may be much less solid than glass, and greatly lighter than water.

In so far, then, there is nothing strange or inconceivable that a likeness of the Earth should be seen in space.

The Earth, as already noticed, travels in a certain spiral path round the Sun; so that when it is on one side of its monthly circle its image is on the other side of a corresponding circle; consequently, if the Earth could be seen from the opposite side—that is, from the Moon's path—it would look no larger than the Moon looks to us; and though actually solid, it could not look more solid than its image does as seen from the Earth.

From this train of reasoning we can gather that the apparent light in space at night, on that side of the Earth turned from the Sun, is about equal to that which falls on the part of the Moon not illuminated; and night is only to such extent comparatively dark as contrasted with the bright light of the Sun, which falls on the half of the Earth which faces it in the day-time.

Clouds which, as a local contingency, sometimes make a night dark, sometimes make a day comparatively dark also; they must not, therefore, be looked upon in the light of a permanent agent; and in reflecting on the effect of the direct bright light of the Sun in the day-time, and on the indirect light of the Sun at night-time, we may leave them out of consideration; and, in such case, we may conclude that the light received from the Sun on moonlight nights is not much less in amount to that which appears to fall on the Moon: however, the real light which falls on the Moon must, in a general sense, be equal to what falls on the Earth in the day-time; but as we borrow such light through our own shade, we see it and get it in a modified state only.

If only one side of the Sun were bright, and that being turned from us were the cause of night, its light at night would be withdrawn from our planet, and the night would be next to utter darkness, in which case there would be no Moon—that is, an

image of the Earth would not be formed, and stamped in space.

Many great writers have puzzled themselves to decide how light comes from the Sun, and it is recorded in works of science to travel at a prodigious rate, which is a misconception; for from the time the Creator said, "Let there be light," there was light, and that light has in a general sense, there is reason to believe, existed ever since; what therefore is ever present, ever existing, needs not to travel to cause light and darkness in the solar system.

It is true the Earth circulates on an axis, and so turns itself, and mankind with it, half to the Sun and half from it; man therefore turns from bright light into less bright light, and from less bright light into bright light; but this tiny daily transit of Earth and man through about twelve thousand miles or less of bright light, and about twelve thousand miles or less of shaded light, can have little to do with the general system of light, whether graduated or otherwise, which conception dictates spreads, with here and there a trifling and accountable interruption, over the whole of the solar system.

Whether light travels as light, is a question which admits of separate consideration; what is here meant is, that light needs not to travel from the Sun, or back to it, to cause light and darkness

anywhere throughout the solar system, as the same light, or light of the same kind, is ever present, ever existing in space.

Some of the calculations existing relative to the Moon will remain unaffected, for they are based on its movement, and ^{not} on its nature.

Notwithstanding what has been written as to the Moon not having power to cause the Earth to turn round a centre within the limit of its own mass, instead of its revolving on a centre, it may yet be affirmed that the Earth does revolve round a centre, within its own bulk; and in such case it might still be contended that the Moon, as a solid body, must be the cause of that motion.

To prevent such impression being entertained, it has only to be remembered that the monthly path of the Earth is spiral; therefore if that path is not of such magnitude as to admit of the axle of it passing obliquely, yet in an almost direct line, through the Earth, northward, southward, it must pass through our planet in the form of an appreciable curved axle, in which case the daily motion of the Earth must be as if made on a curved axle, and therefore more or less round an imaginary straight line from pivot to pivot, instead of on a straight line from point to point.

The monthly path of the Earth being spiral, no imaginary axle could of course pass through the Earth in an exact straight line; for however great

- the arc, the axle would be curved, though such curve might be so slight as to preclude detection; however, the true curve of the axle is known, as it enters at one end and emerges at the other, so as to give the Earth the precise pitch which causes it to move as it does move in its monthly orbit.

It would be absurd to state in a positive manner that the Moon is the mere image of the Earth, for all that man can do is to offer a qualified opinion on the subject; the general belief, it is well known, is, that the Moon is a solid body; but if an outline map of the World can be identified in the Moon, such belief will most likely undergo modification, if not a complete change.

It has been assumed that the dark, roundish patch high up in the Moon to the right, is the Great Desert lying South of the Caracas range of Mountains, and dark patches of considerable magnitude are to be seen on other parts of the Moon, where oceans and seas exist not; it is therefore not improbable that the great deserts of Asia and Africa will be distinguished and recognised as helping to make the Moon look like a desolate, uninhabited planet—a picture it is admitted to resemble by all who have attempted to describe it.

The explanatory part of this article will, no doubt, require further consideration, in order to make it more perfect than it is in its present dress;

however, if the scientific world assent to the theory, that "the Moon is the Image of the Earth," the Longitude will at once be found from the Creator's chronometer.

Thus, then, if scientific truth be found in the theory advanced, perpetual motion on earth will no longer continue a mystery; for the rotation of the Earth on its axis will be rendered available to supply the wants of mankind.

We do not see our likeness in our satellite as a likeness is seen in a mirror, for the picture of the Earth in the Moon is caused, it is conceived, by what may be termed an optical effect—the reverse to that which obtains in respect to the eye, under ordinary circumstances, for the image of an object is supposed and generally believed to be formed on the retina upside-down; whereas the Earth being the object or solid body, the Moon represents and takes the place of the retina, and images our planet faithfully as an eye would do looking at the Earth from the Moon's place.

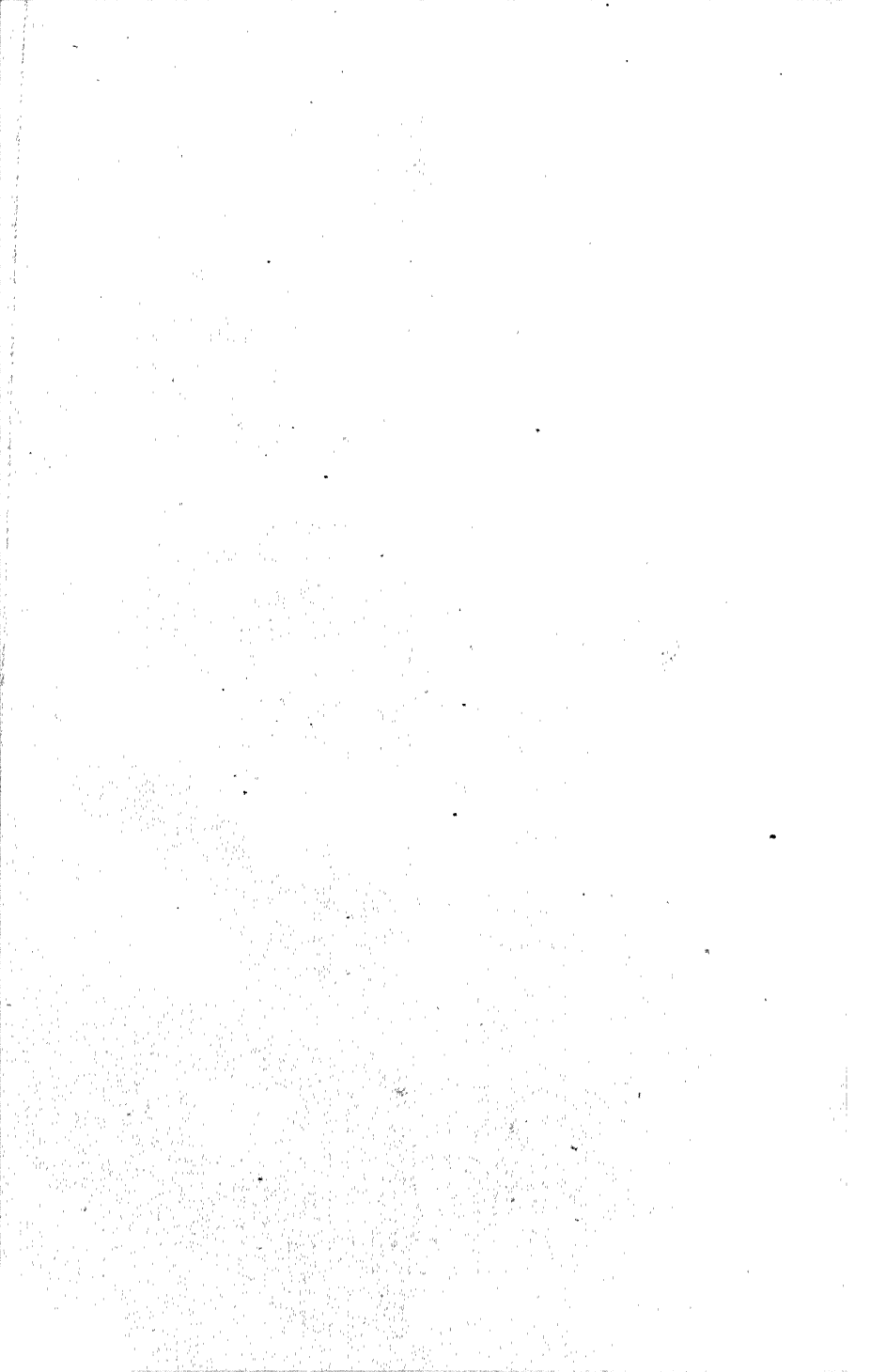
In effect, then, and to use a metaphor, we are permitted to behold an image of our abode in the eye of our Maker.

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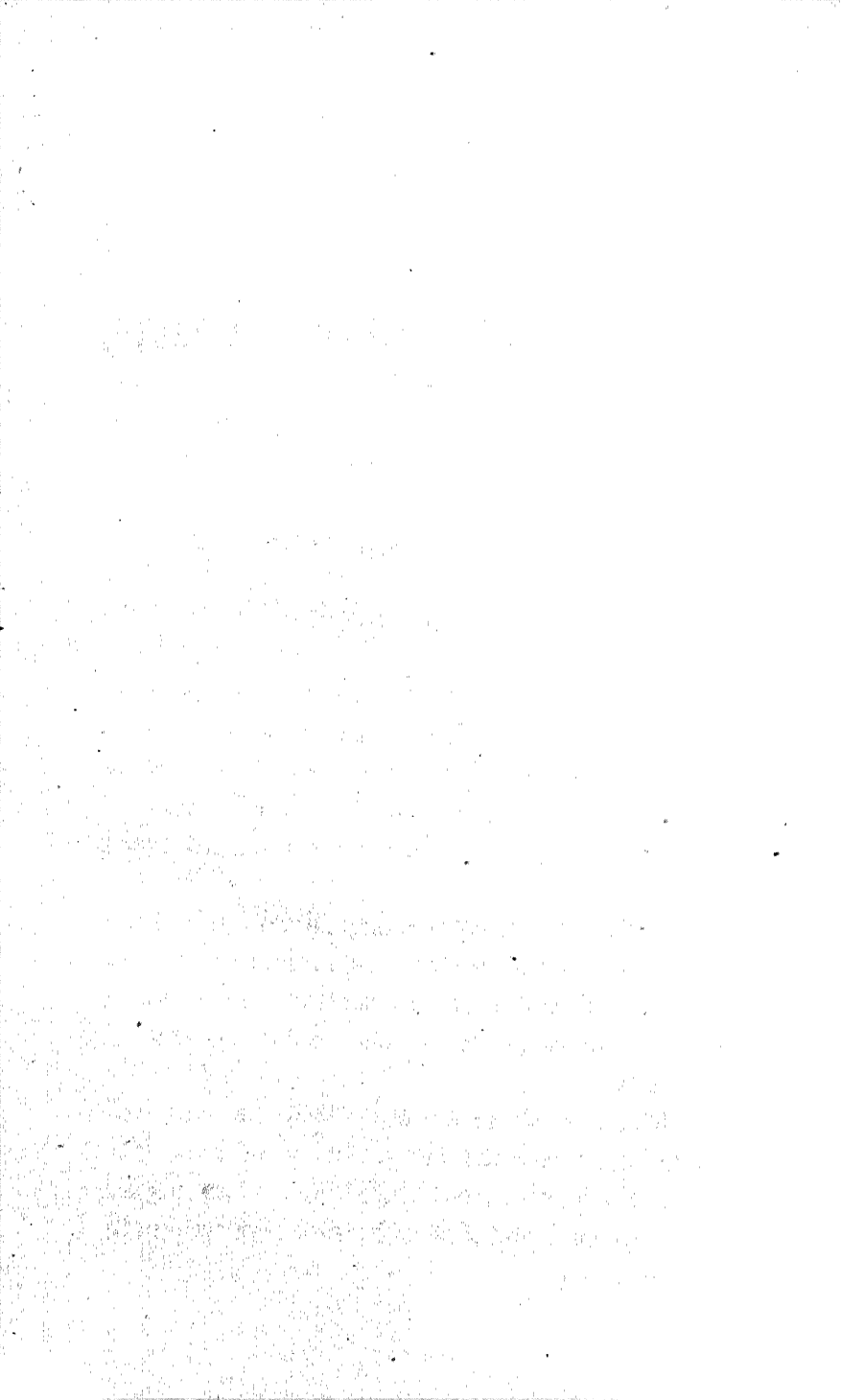
THE LONGITUDE.

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THE MOON IS THE IMAGE OF THE EARTH, *&c. &c.*

ON AND OF THE SOLAR SYSTEM.

BY T^H. B. LONGITUDE.

BEFORE our system can be clearly understood on the Theory of "T^h Longitude," it is desirable to believe for the occasion, if not altogether, pending the discovery of better data, that all ~~as~~^{and} everything of or belonging to it, is electricity in some form or shape.

The Sun, resisting medium, Earth, Air, Fire, and Water, and all things in subordination to these, iron, animal and vegetable matter, and so forth, that is to say, all in the Solar System, is electricity.

This being comprehended, it can be conceived and believed that the Sun is the pivot point, the centre, the purifier, and the vivifier of all matter of our system; and that it is itself electricity even to its own core.

produced, and now maintains the Sun, **it** being kept up by intense friction, which causes perpetual ignition at the pivot point in space, **which** pivot in our system is the Sun.

Thus electricity, as already observed, assumes various shapes and forms, from intense heat to intense cold, from solids to substantial fluids, from atmospheric air to invisible resisting medium.

Starting with these premises for **a** basis, the difference between electricity and magnetism can be understood, as all matter in a highly fluid state, that is to say, matter in space, is more or less pure electricity, whereas all fixed or condensed matter is electricity magnetized, and is thereby more or less consolidated, and may be viewed as more or less impure.

On the principle laid down, we now come to the cause of the dip, rise, and variation of the needle.

It is to be remembered that the **Earth** is ever moving through a considerable resisting medium, in other words, it is ever passing through a sea of electricity, the South Pole ever leading the way in its spiral path, so that the inclination of all magnetized matter is to go with the current, but it is restrained by its density.

At this stage it may be advisable to remark that there are several forces at work exclusive of the one which carries the **Earth** forward in its annual course—that is to say, we have to consider the daily

and monthly motion of our planet, coupled with the more or less pure electricity in our system, as forces affecting matter on and of the earth; thus the daily motion of the earth causes the compass to vary. As an example of what is meant, in the latitude of Greenwich say, at 6 A.M., there will be no variation; at noon, supposing the Earth to be moving to the left in its annual course, the variation will be to the right; at 6 P.M. there will be no variation, but at midnight the variation will be to the left. The degree of variation from no variation to variation will depend on the latitude—on the angle, that is, the latitude may form to the Pole in space.

The cause why the needle rises and dips and always points more or less to the North, may be thus explained; a current of electricity as the Earth moves in its monthly orbit sets from South to North, and all magnetized property has inclination to follow it—that is, to go with it; but it is restrained owing to its density.

Example: take a needle in the 0 Longitude of Greenwich to the South Pole, and the artificially magnetized end will rise with the current which has to pass over the centre of the Earth's surface; the needle having reached the centre of the Earth's surface will neither rise nor dip, but once past it it will dip till in the vicinity of the North Pole of the Earth, when it will rise to the Pole in space.

If, after this explanation, a compass can be constructed and mounted with great exactness, on a scale marking latitude and longitude, with figured tables to correspond, latitude and longitude could be found by the needle and figured tables, in conjunction with a compass constructed by clock-work or otherwise, so as to show no variation in any latitude, and no rise or dip in any longitude.

ON THE AURORA BOREALIS.

ITS CAUSE UNDER THE THEORY OF

THE LONGITUDE.

ON the theory that the Earth has a monthly spiral motion, and that all and every thing we know of is electricity in some form or shape, the cause of the Aurora Borealis can be explained as follows.

Our planet is ever in motion, and being more or less consolidated electricity, it has weight considerably greater than electricity generally which is in space, and as its monthly path is spiral, and as it has therefrom a peculiar pitch or inclination, through which circumstance the South Pole is ever leading the way; in moving from space into space, its density and velocity of motion necessarily cause great compression in the first instance of the matter which is ever in succession ahead of it, compelling it to give way as it advances in its monthly, and simultaneously in its annual orbit,

the effect of which is the Aurora is first seen by those who are on the southern half of our planet, and earliest of the so situated by those who may be nearest to the South Pole. The people in the northern half of our planet get sight of the Aurora, as it approaches and soars over the Equator, from which point of view it spreads and covers the heavens in a northerly direction, leaving what may be termed a considerable wake. A portion of this milky light appears to branch off as if separated for a time from the general mass, but subsequently seems to join it again; such appearance is caused, it is conceived, through an optical effect; for the upper and lower streams, flowing evenly to the sight, are joined by the outer side stream, which curves inwardly in the direction contrary to that in which the Earth is moving in its annual orbit; the other side stream—that is, the inward current—attracted more strongly to the Pole in space than directly to the Pole of the Earth, seems in the first instance to branch away: but as its tendency is in the same general direction as that to which what may be called the other three streams are moving, it after awhile appears to join them—join them it does, for all have to fill that space which the Earth is ever leaving through its perpetual motion,

The figure of the Earth being globular, the matter displaced by being compressed, must be

cone-shaped and moves to fill the place left by the Earth, by closing inwardly as our planet moves from space into space, and owing to an optical effect it appears to move for a time in separate streams, one very large, the other much smaller.

That some stars are partially veiled by the Milky Way there need be no doubt, but it may possibly be a question whether that appearance, likened to gold dust thickly sprinkled in the heavens in the Milky Way, all supposed to be stars, may not be an optical effect merely, produced from great friction by the Earth compressing, and then forcing its way through electricity in space, causing it to spangle the heavens as if with stars, the same being fleeting bubble images of itself, and likenesses ten million times, may be, too minute for the features of the Earth to be distinguished on any of them.

RELATING TO AN ECLIPSE OF THE SUN

AND TO OTHER APPEARANCES,

REGARDING THE MOON AS THE IMAGE OF THE EARTH.

IF it be believed that all we know of is electricity in some form or shape, it can be comprehended that matter in space may be of such consistency as to offer considerable resistance to forms of a solid nature. Thus, if the Earth were not magnetized through and by reason of its solidity, it would itself form a portion of matter in space, and might, for instance, as pure electricity, fill a line of that path which is known as its annual orbit, in which case one part with another would be in contiguous communication, when, of course, there would be no visible planet, no resisting medium to our Earth in such form, and consequently no year; and the matter which expanded to supply the place caused by the condensation and concentration of matter which formed our planet, would be, from being compressed in one spot as at present, be compressed throughout to its original state, and the whole mass would be one and the same thing as now, and ever

has been, but in another form to that which at present exists.

On the reasoning above advanced, that the matter in space is of sufficient consistency to admit of an image of the Earth being formed and seen, and that such image is the Moon, the appearance of the image of the Earth when it eclipsed the Sun on the 28th of July, 1851, can, it is concluded, be satisfactorily explained.

The Astronomer Royal went to Gottenberg on the occasion of the eclipse, while several other astronomers placed themselves in various stations not very far from him, in order to obtain a good view of the event. On or about the time the eclipse became total, a mountain to the left on the edge of the Moon came in sight, and as that disappeared a mountain to the right on the edge of the Moon became visible; other two objects were beheld lower down to the right, of curious forms, a portion of one of the two appearing to be detached so as to look as if floating in space like a balloon; these last mentioned objects were supposed to belong to the Sun, and not to the Moon.

The crown around the Moon, that is "the Glory," is represented as having been magnificent.

The Astronomer Royal, it seems, remarked that mountains in the Moon were very distinct at the time of the eclipse, and this is supposed to mean other mountains than the two already noticed as

having come in view on the edge of the Moon, one to the left, the other to the right, and distinct also, it is concluded, from the serrated edge of the Moon, where he observed mountain peaks.

That which was seen at the time of the eclipse may be thus elucidated under the new theory that the Moon is the image of the Earth. The Moon, from the Sun being behind it, was converted into a transparency, when a picture of mountains on the Earth became visible; the objects marked *a* and *b* by the Astronomer Royal were, it is concluded, the images of two volcanoes, which at the time were probably in active operation; these mountains are situated, it is supposed, about, or somewhere between 120° and 140° West longitude, and about or between 50° and 60° North latitude; the object marked *c* was possibly a dense mass of smoke, vapour, and red-hot cinders from volcano *b*, which as a jet of matter from the mountain became, may be, cut off, and so appeared suspended. The object marked *d* is the image of a mountain, or a section of a range, in Sumatra, Malacca, Cochin China, or thereabout; the object marked *e* is the image of Chimborazo, or a mountain, or the section of a range, not very far from it; the serrated line marked *f* is the image of the chain of Aleutian Islands, situated beyond the North Pole, or up under it, on the Pacific Ocean side of our planet. The Corona was the image of our atmosphere,

broad at the base, fitting the Earth like a circular concave wedge, upside down, and consequently tapering off outwardly, which, as it was highly illuminated at the totality, became "the Glory." From the different density of the atmosphere at the surface of the Earth, the objects seen pictured in the image of it on the margin of the Moon were, it is supposed, unequally magnified, so that the volcanoes as well as the Aleutian Islands may have looked greatly higher in the picture than what their several altitudes on Earth may really be. The concave fitting of the atmosphere on the Earth will account for the cloud-like appearance which was beheld in the picture by the Astronomer Royal, lapping over the disc, and appearing beyond the Moon in the direction of the Sun.

From the explanation rendered above, it can be comprehended that, on the occasion of the occultation of stars by the Moon, independently of their being seen as supposed between mountain peaks on the serrated edge of the Moon, they really can be seen after passing behind the image of the Earth to a certain extent, and again, before reaching any mountain fringe prior to emerging and getting clear of the Moon; for, however comparatively feeble the light of planets and stars may be as contrasted with the light of the Sun, it is sufficient to make more or less of the margin of the Moon transparent, admitting thereby of their being

seen when comparatively veiled by the edging of the transparency ; it can readily too be understood that as the stars pass beyond the margin and behind the thick part of the picture, they become occulted by reason of their light being insufficient to illumine the centre of the image of the Earth so as to make it transparent, as the Sun alone is able to do.

The occasional dull look of the Moon when it seems as if situated in a hazy ring, is possibly caused by the atmosphere of the Earth being imaged around it when unusually dense, foretelling, as such hazy appearance is supposed to do, stormy weather ; a reasonable conclusion, for, on the atmosphere being purified by lightning, which is frequently accompanied by thunder, wind, and rain, the ring, and hazy appearance, as a conceivable consequence, vanish.

Under ordinary circumstances, from the Sun not being behind the image of the Earth, the atmosphere, when clear, if imaged in space around the Moon, is not visible ; at least as yet, it has not, it is believed, been detected.

It is desirable to draw the attention of astronomers to a general peculiarity which seems to support the new theory. As examples : from Greenwich say, on or about the time the Moon may be rather more than two days and a quarter old, the inner edge of the bright, and, consequently, the edge of the dark part which joins on

to it, will always be considerably serrated, as the part seen is a line first of sea, which will be smooth from 0 longitude—that is, from the top of the centre of the Moon—to about 40° W. longitude, where it cuts the land downward (the picture, be it remembered, being upside down) through South America, from about Espirito, through a large part of North America, out to a sea line low down to the right, at or about Cape Mendocino, in California; the outer bright edge, seen from Greenwich, will always be serrated, say from about long. 46° W. to 78° W; the remainder will be a sea line on both sides, that is above, and below, and comparatively smooth, here and there. however, it may possibly be cut by islands; the outer edge, though serrated to about the extent specified, the unevenness may not be perceptible, excepting on an occasion of an eclipse of the Sun from the velocity of the Earth's motion—a motion, of course, imitated by its image: thus, when the Astronomer Royal saw the Moon closing on the Sun on the occasion of the eclipse of the 28th of July, 1851, and remarked on the clearness with which he observed the serrated edge, he was then, it is believed, looking at the image of a very broken line (viewed from Gottenburg) which ran down in the picture through the north part of South America, say rather north of Rio Janeiro, downward through Mexico, in North America; the remainder of the closing on

the Sun half circle was sea line, and must have been comparatively, if not quite, smooth.

Astronomers will find, it is believed, that when the Moon may have passed its last quarter by about three and a quarter days or so, the inner bright edge, viewed from Greenwich say, will cut through a very broken surface: that is to say, it will cut downward through a mountain range in Africa; will pass through Beeloochistan; will cut through the Hindoo Kush, in Affghanistan; will cut through the Himalaya; will pass through Turkistan; will run through a portion of the Chinese Empire, through Mantchuria, and out to a sea line by the Kurile Islands. The outer line of the Moon on the Asia side will, from Greenwich say, always be serrated from about 96° E. long. (Sumatra), more or less, to 140° E. long.; before and after which longitudes it will be a sea line, and all, or almost all, will be smooth. At the time of the first quarter, as also at the time of the last quarter, the Moon, when viewed from Greenwich say, will always be uneven or serrated to a certain extent in the centre: that is to say, where the bright and dark edging join, as the bright edging passes downward through Africa, about or near Cape Coast Castle, cuts through the Niger, Sahara, the great desert; passes between Gibraltar and Algiers; cuts the Mediterranean; passes through Spain, France, and England; cuts through a small part of the Russian

Empire, north of Kamschatka ; passes through the sea of that name ; cuts through the Aleutian Isles, and then it becomes an ocean line, as it is a sea line before it reaches the African Coast in the vicinity of Cape Coast Castle. After the Moon once becomes visible, the inner edging will always be more or less differently serrated, from day to day, according to the position of our Satellite, and till it becomes full ; after which the inner edging will, in the same manner, be differently serrated, from day to day, till the Moon disappears : however, as the place of the Moon is so well known from hour to hour and minute to minute, the nature of the edging likely to come in view from time to time will eventually be foretold with precision, or in a manner approaching certainty. At the time of first quarter, from Greenwich say, the half of the Moon seen will always be filled, excepting a slice of the old world, by North America and the North part of South America, and by the Atlantic Ocean, and by a slip of the Pacific Ocean ; and the half of the Moon seen at the last quarter will always be filled exclusively by the old world, Africa, Europe, and a very large portion of Asia.

It may be as well, in this place, briefly to notice a curious effect relating to the Earth and its image, in further elucidation of the new theory. It has been remarked in the original pamphlet, "The Moon is the image of the Earth, &c.," that when

the North Pole of the Earth is over head, the North Pole in the image is low down—that is, one is upside down to the other; this extreme opposition ceases as the North Poles or other points move round, for it is the Zenith and the Nadir at times only, which are ever exactly upside down to each other; thus, as the North Pole of the Earth moves round to the right, the North Pole of the image moves to its proper right, so that both North Poles are on the same side: that is, on the same hand side, one however being high up, the other low down; so that while the one high up is moving downward, the other low down will be moving upward; at two quarters of the circle, therefore, the two North Poles are opposite to each other on the same hand side, but are reversed: that is to say, if they both had side faces of the same mould, one would be looking downward while the other would be looking upward; after passing each other, and getting to the Zenith and Nadir once more, the North Pole of the one, and the North Pole of the other, will be upside down to each other again.

It has been noticed, that at the time of an Eclipse of the Sun, it is the image of our atmosphere highly illuminated, which forms “the Crown” or “Glory.” That this is so seems to be borne out, from the circumstance that, on an occasion of an Eclipse of the Moon, before the figure of the Earth begins to

cover its image, a dense mass, like unto smoke issuing from the funnel of a steamer, pilots the way, and gradually spreads itself in advance over the Moon; but when the eclipse has become total, from the figure of the Earth covering its image, such smoky appearance vanishes, and the Moon looks clear: that is, looks rather darker, otherwise much the same as that part always looks which is not in the bright light of the Sun; the image of the atmosphere: that is, the smoky appearance, is again seen as the figure of the Earth uncovers its image, for the reason that the image of the atmosphere is at such time following the image of our planet.

No "Crown" or "Glory" is seen on an occasion of an Eclipse of the Moon, as the Sun is in front of the image of the Earth, and the image of our atmosphere is not therefore lighted up. The image of the atmosphere sometimes partially eclipses the Moon at such time—that is, as our planet may itself clear its image by passing above it, or below it; and this will account for the smoky and never clear appearance of some partial eclipses of the Moon.

Astronomers, it is believed, ascribe this smoky appearance to the shadow of the Earth, but this view of the case is supposed to be an incorrect one, for precisely the same look, in respect exclusively to the atmosphere, is constantly to be witnessed when the Sun is sinking, and when the atmosphere is more than usually dense near the surface of the

Earth ; the difference is, that in one case the atmosphere is imaged and seen to pass over the Moon, in the other case the atmosphere itself is seen to pass over the Sun as the Earth is turning on its axis at that time of the day which is called sunset.

The appearance known to astronomers under the name of Bailey's Beads, may be accounted for thus.

The line of the Earth imaged in the Moon, and forming the rim which first closes on the Sun, or which may be just leaving it, will always, or almost always, be more or less broken, and when it happens to be much broken and mountainous a bead-like appearance will be very striking ; more or less of the edging will be a sea line, and will appear like a highly polished brilliantly lighted silver wire ; if the atmosphere should be pure at the time of an Eclipse of the Sun, the quicksilver-looking beads, or diamond or pearl-like appearance, will be all the more brilliant, as will be the silver wire-like appearance ; if the sea line should be greater than the land line, the wire-like appearance will be greater than the bead-like appearance, and should the land line be greater than the sea line, the bead-like appearance will be greater than the wire-like appearance ; and the reason, it will be understood, is a simple effect caused when the sun is behind the image of the Earth, and brilliantly illuminating the smooth transparent water line as well as the serrated land edging. On the occasion of the

Eclipse of the Sun in July 1851, some astronomers seem to have noticed both the beads and the smooth bright edging.

To return more particularly to the subject of the Eclipse of the Sun in July 1851, it may be remarked that the testimony of all the astronomers and observers generally who went to Sweden, Norway, and Denmark, and gave an account of what they saw on the occasion of the Eclipse, seems to bear out the new theory that the Moon is the image of the Earth: not, of course, that their descriptions severally were recorded with a thought of the kind; however, when they reflect on what they beheld, and couple it with what is here conceived, and with what has been put forth in a pamphlet, printed for private circulation, and entitled, "The Moon is the Image of the Earth, &c.," they may possibly think it not improbable that the Moon may, after all, be nothing more than the image of the Earth. What the astronomers and other observers saw on the occasion of the Eclipse referred to, may, in a collective sense, be thus interpreted. The whole body of observers faced the Sun, and had the Moon—that is, had the image of our planet—between it and the Earth; each person may conceive that at the time he was beholding the Eclipse, the North Pole of the Earth was over his right shoulder, and that it was moving upward and over in the direction of his left shoulder, so

that when he beheld the image of the Earth facing him he saw the North Pole low down in the Moon, and moving round from the direction of his right leg underward to his left leg.

This description being comprehended, the observers, collectively, saw, it is conceived, commencing from the left-hand side downward, a smooth sea line from 0 long. of Greenwich to about 16° E. long., when the edging no doubt became serrated for some 14° or 15° E. long. by the southern extremity of Africa, after which it became a smooth line again, till they saw the image of a mountain, or a section of a range in Sumatra, Malacca, Cochin China, or thereabout. They likewise beheld the edging of the Earth serrated by the land about Japan, the Kurile Islands, the Aleutian Isles, by the ridge of land running from the Aleutian Islands round by the coast viâ Mount St. Elias in the direction of Mexico: volcanoes in active operation probably, in the direction of California, and Chimborazo, or a mountain, or the section of a range, in or not far from the province of Quito. From 0 long. of Greenwich W., that is, from the left-hand side top of the Moon to the right-hand side, for about 40° W. long., about the time of totality, the line must have been smooth, after which it must have been serrated up to the mountain which was seen on the right, that is, up to say Chimborazo. The reddish purple of the whole Moon at the time of totality

was caused, it is conceived, by the brightness of the Sun having converted the image of the Earth into a transparency, which was succeeded, and doubtlessly was preceded, by a deep purple caused by the image of our atmosphere, thick and smoky in appearance, having preceded and followed the image of the Earth as it passed onward to eclipse the Sun, and as it passed away from having eclipsed it.

The undulations observed over the ridges or serrated edging of the Moon arose from the vibration of our atmosphere when clear of the image of the Earth, and seen as the "Crown" or "Glory," copied as such vibration must have been by the image of our atmosphere; the bright lake and pink look, and the rosy appearance here and there noticed, arose from the brilliancy of the Sun tinting the serrated edging of the Moon; and the flaming spots or points may have been produced from the same cause, or may have been the images of volcanoes in an active state, and as already suggested.

On occasions of Eclipses of the Sun, astronomers in future, will be able to anticipate, in a measure, the edging they may be likely to see: thus, if 90° from Chimborazo they will see the image of that mountain on the edge of the Moon, and other objects 90° or less distant, will be beheld as a matter of certainty; provided, of course, that the

atmosphere, and consequently its image the Corona, may be clear enough to show them. The Aleutian Islands, for instance, are not 90° from Gottenberg, but beyond them, as viewed from that place, is the Pacific Ocean; so when looking up under the Moon at the Eclipse in July 1851, the sea line was more or less intercepted, cut, and serrated by those islands.

This description will most likely be understood by those who wrote an account of what they saw in July 1851, as it will be comprehended probably by those who may have read the several accounts given of the Eclipse; but to those who may not have witnessed the Eclipse from Gottenberg, or thereabout, or who may not have read a description of what astronomers thence beheld, the interpretation here given may prove somewhat unintelligible. The Corona of 1851 is supposed to have been far broader than that which was seen in 1842, on the occasion of the Eclipse of the Sun, and the suddenness of the darkness in 1851, is said to have been much more striking than the darkness which occurred in 1842. Such differences seem easy of solution; for in 1851 it may have occurred that the atmosphere was in effect broader or deeper, and also thicker, than it happened to have been in 1842, so that as its deep smoky image in 1851 closed on the Sun, comparative sudden darkness ensued; whereas in 1842 the atmosphere, if less thick and

smoky in appearance, more of it was required to intercept the light of the Sun, and darkness of course came on less suddenly than it did in 1851.

Some people have been staggered at the new theory, from having been unable to conceive how an image of the Earth can be formed in space where no matter of any kind whatsoever is by some of the learned supposed to exist; however sufficient evidence, it is concluded, has now been adduced to convince all thinking beings that in space there is matter of more or less consistency. This matter, such as it is, is, with the aid of our atmosphere, ample to produce an image of the Earth, which image we call the Moon. In further explanation, the atmosphere fits the Earth in a concave manner, so to space its form is convex; on this convex shape or mould the purer matter in space is fitted in a concave form; its form, where the Moon is formed thereabout or beyond, being convex outwardly; and although the atmosphere fits on to the Earth in a concave form; the eye must make a convex lens of its own above the surface of the Earth, so that a double convex lens is the result; and in it is produced the effect beheld: as indeed an effect exactly, or at least somewhat similar—that is, on the same principle—can be produced on Earth, by the use of a common double convex lens. Thus, then, the double lens used on Earth is electricity condensed and existing in the shape of glass, and is therefore what may be

termed a solid. The double lens used, and through, or rather in which we see the Moon, is electricity in a fluid state: it is in fact a matchless double lens prepared by the hand of the Creator; and, as observed, in it, we behold the image of the Earth, reduced in size possibly beyond what its actual or supposed distance may probably account for, from its lying at an angle of $5^{\circ} 8' 48''$ to the ecliptic: not that it or the ecliptic have aught to do with each other in a physical sense, for as an image of the Earth the Moon is what may be styled optically situated all proper.

The more it is considered that the Moon is the image of the Earth, the more it seems to be borne out by that which astronomers themselves have recorded under the supposition that it is a solid body. Numerous instances might be cited in proof of this view of the case; but for the present purpose one or two will suffice to illustrate the subject under consideration.

Example the first. The Moon, under the authority of astronomers, is said not to complete an exact circle in its tour round the Earth, but is said to move in a spiral manner; thus, then, as far as the mere motion of the Moon is concerned the two theories agree.

Example the second. Astronomers say that no two solar noons are alike; that is, no two agree. Under the new theory, that the Earth has a spiral

monthly motion, no two consecutive noons can coincide: in so far, for a second time, both theories are concurrent. The explanation regarding the spiral motion of the Earth is applicable of course to all the planets, and will account for the eclipses of Jupiter's satellites appearing to take place sometimes too late, and sometimes too soon; and it will possibly convince all men that such phenomenon has nothing to do with the travelling of light as conceived by Roemer, and as has been believed in by astronomers after him up to the present time: thus in the upper bend of Jupiter's monthly spiral path, noon to the upper half of that planet must come too late, while at the same time to the lower half it must come too soon. The same kind of occurrence, but with an opposite result, must take place when Jupiter may be in the lower bend of its monthly spiral path; and though many noons may almost coincide, no two consecutive noons can ever be exactly alike: not but a correct noon may, and does, occur sometimes at places, or on spots on the surface of that planet. Suppose Jupiter to be eclipsing one of its satellites, in a position when its noon to it comes too late, the eclipse of the satellite, viewed from the Earth, will appear to take place too late; and this appearance of too soon and too late in the occurrence of eclipses of the satellites of Jupiter will vary according to the position of the planet itself, and

of the position of the Earth likewise; for when Jupiter may be in or near the centre line of its monthly spiral path, and when nearest to, or furthest from, the Sun, in such spiral track, the eclipses of his satellites will appear to take place at, or almost at, the proper time. Similar effects will result when the satellites of Jupiter pass in front of their principal. The moons of Jupiter are mere images of himself, seen from the Earth on a spiral line opposite to the one the planet itself is moving on; the apparent different distances being an optical effect produced by curves in the line on which the images are formed, the same being so many concaves to our planet; and whether eight, or more or less, focal points or moons, are beheld from the Earth, is a matter of no consequence, as the principle on which the theory is based is not affected by numbers. When a satellite of Jupiter happens to pass between it and the Sun, it is seen from the Earth on a convex curve, and continues to appear as a dark speck, till it clears the disc of the planet, when the Sun again lights it up on a curve concave to our planet.

ON THE SUBJECT OF A CHANGE IN THE
WEATHER, &c., ON A CHANGE OF THE
MOON.

PEOPLE in the world generally think that the Moon itself has an influence on the weather, and that at its changes, changes take place from fine weather to bad weather, and from bad weather to fine weather, and so forth. Astronomers one and all, it is believed, consider that, as a solid body, the Moon has power to raise the waters which are on the face of the Earth, and that it and the Sun are the two bodies in our system which cause the tides of the ocean. Notwithstanding this general belief of scientific men, curiously enough, they are unable to discover, by the finest and most delicate tests which can be applied, that the Moon has any influence whatsoever on the Earth; and it is in consequence concluded by the learned of the day that the belief of people of all nations that the Moon has an influence on the weather and on animal and vegetable matter, &c. &c., are so many popular fallacies.

To ordinary understanding, if the Moon possessed power to raise the waters of the ocean, there would be nothing unreasonable in the popular belief in various other influences ascribed to the Moon, particularly as the very great power which must be necessary to raise the waters of the ocean is not required for the fulfilment of various other acts of the Moon believed in.

The popular fallacies alluded to may have originated from the learned "of the time being" leading people to believe that the Moon is a solid body, and possessing power to raise the tides of the ocean to the height of many feet; yet, as observed, all tests tried seem to prove to the understanding of scientific men that the Moon possesses no influence on the Earth; notwithstanding which, they believe that water, a heavy substance, is raised by its power.

The information afforded by a few of the imperfect tests used to discover whether changes of the Moon affected the weather, has been applied to the new theory; and as far as such unsatisfactory data can be relied on, it appears that there is rather more fine weather when the Earth is in the half of its spiral monthly path farthest away from the Sun, than when it is in the nearest to the Sun half of its monthly spiral path. If such should really be the case, the popular belief that a change of weather sometimes occurs at a change of the Moon, would

be correct ; but the cause of such change would be owing to the position of the Earth, and not to the power of the Moon : however, as its changes indicate changes in the position of our planet, it may for the future possibly be looked upon as the Creator's barometer, or, as hitherto, the people's weather-glass.

Whether there may be any difference in the weather from last quarter to first quarter, as one half, and from first quarter to last quarter as the other half of two positions of the Earth in its monthly course, can easily be tested ; and at the same time it would be discovered whether changes from fine weather to bad weather, and from bad weather to fine weather, often or seldom occur at the indicated two particular periods of last quarter and first quarter.

REGARDING THE SPIRAL MOTION OF THE EARTH.

IN a general sense it is admitted, it is believed, that the Moon, at the time of being new, must be closer to the Sun than it is at the time of being full; and under such circumstances it is deemed possible that the Earth, in its monthly course, must be furthest away from the Sun when the Moon is new, and nearest to the Sun when the Moon is full. This to and fro motion causing changes in the position of the Earth may not have been hitherto detected, through at least two conceivable causes: one, that any such motion may not have been thought of; the other, that it may not have been possible to detect such changes by ordinary computation. The body of the Sun is nearly twice as big as the monthly orbit of the Earth, so when moving to or from the Sun in its monthly path the Earth's advance and retirement may be viewed as if made on a straight line to and from the Sun; in which case its to and fro motion may not be perceptible. The

fixed stars are so far away, that they can afford no aid to show whether the Earth is moving to and from the Sun in a monthly spiral path or not; on the other hand, all the planets, like the Earth, are themselves in motion, and they cannot, may be, inform astronomers whether the Earth has, or has not, a to and fro monthly motion. Astronomers say that all lines drawn from the Sun to any part of the Moon's monthly orbit may be considered straight lines; so that as the supposed monthly orbit of the Moon is, under the new theory, deemed to be in effect the real monthly orbit of the Earth, the movement of our planet to and from the Sun may not be susceptible of detection, through the means of the Sun, the planets, or the stars, for the reasons given. The remaining object to be appealed to for information is the image of the Earth, and that indicates as clearly as is reasonably possible that our planet has a monthly spiral motion, and that such motion is imitated by itself under the name of the Moon. If the Moon is the image of the Earth, the Earth, from the Moon's place, would look no larger than the Moon looks from the Earth; but Astronomers seem to consider that the Earth from the Moon must look very much larger than the Moon looks from the Earth: it has however been explained, that if the Moon, in addition to copying the inclination of the Earth, is seen foreshortened as it were in the Creator's lens, from its lying in it

at an angle of $5^{\circ} 8' 48''$, the difference assumed to exist may possibly be reconciled in the estimation of the scientific.

It has been observed in a previously printed pamphlet, "The Moon is the Image of the Earth, &c.," that if the Moon be admitted by the scientific to be the image of our world, it will afford the mariner and others the means of ascertaining the longitude. As a rough example of what is meant, suppose a ship bound for England to be in latitude 80° South, and that opportunity should offer at full Moon, so that Chimborazo, the South Cape of Florida, ~~Spain~~^{Norway}, Surat, and a clear sight of Cape Horn, should be in the field of view, the mariner would know that St. Helena would in such case be slightly to the west of north of his position, and by consulting figured tables, duly prepared, he would know the exact spot occupied by his ship; if the Moon should be at its first quarter, Cape Horn, Chimborazo, and Florida, would ~~not~~^{not} be seen, but the other places specified would be in view, and the bright inner edging would be serrated in such manner as to be identified, as it would be broken by the West side of Upper Africa, by Spain, and by Great Britain, while all the remainder of the inner bright edging would be comparatively smooth; if the Moon should be at its last quarter, then Cape Horn, Chimborazo, and Florida, would ~~not~~^{not} be seen, and the Asia side, with ~~Spain~~^{Norway}, would be

invisible; the points of the edging which were bright when the Moon was at its first quarter would now be dark, and the points of the edging which were dark at the first quarter would now be bright, otherwise the edging would be much the same in both cases: any marked difference, however, would be owing to the angles at which the two edgings might be seen, with reference to the position of the Moon at the first quarter and again at the last quarter.

As another rough example, suppose Point de Galle to come in view at the edge of the disc at full moon, or at last quarter, on an occasion of a ship bound from England to the Cape of Good Hope; the mariner would know that his ship was off the African Coast at a point between Sierra Leone and Cape Palmas, and on a reference to his printed figured tables, the exact spot occupied by his vessel would be known to him: it is to be understood that the illustrations given above, relative to assumed positions for ships, may be incorrect as to miles; the intention being to convey a general idea merely of what is meant.

The position of the Moon in its monthly orbit being known at every minute, the objects which will be seen within its visible disc will eventually be foretold with the utmost precision from every point of view on the Earth's surface.

In beholding the Moon with the naked eye from

visible new up to full, the outline of North America, with the upper part of South America, is so marked, that the wonder is how it could, till recently, have escaped detection. On the Asia side although Hindoostan runs far into the sea, still as compared to North America and to the broad portion of South America, it shrinks into a comparative nothing; and it, together with the outline of the old world further eastward, even less boldly marked, is not identified with the same ease; the observer will, therefore, find the aid of a telescope desirable. If a broad full view of the whole of Africa were always in sight, its outline, from its great size, could be identified, as are the Americas, without the aid of a telescope.

ON AND OF THE ECLIPSE OF THE SUN,

WHICH WILL TAKE PLACE ON THE 25TH MARCH, 1857.

As the Eclipse will not be visible in England, and as particulars of its appearance from two or more stations will most likely be made officially or otherwise to the scientific world of Europe, it seems desirable to give a rough sketch of what it is conceived will be observed in its course, should the atmosphere be usually clear. This attempt at prediction, though it may prove imperfect, is merely intended to bear out, as far as scanty information will admit, the new theory "the Moon is the image of the Earth."

General observation. At the commencement of the Eclipse, as well as at the ending, the advancing and leaving eclipsing matter will be more or less smoky in appearance; and at totality the appearance of the Moon will be comparatively clear.

From New Zealand, in the half first covering the Sun, and in the lower part of the Moon, the

edging will be cut and broken by the southern part of South America ; and it is possible the outline of a chain of mountains may be in the field of view : a few of Baily's beads may be seen in the direction where the edging will be broken as indicated, otherwise the whole of the line of the half of the Moon following the smoky appearance will be one uninterrupted, or almost uninterrupted, bright silver wire line, in appearance. It is necessary to qualify this statement, to meet a contingency of an island, or more than one, breaking the sea line ; thus, if Madagascar should be within 90° of any part of New Zealand, the upper part of the edging of the Moon will be broken, to the extent of the land within such range.

From Sydney, Melbourne, and Hobart Town, the lower part of South America, in the lower part of the Moon, may possibly come in view ; but the edging will be serrated to a much less extent than as seen from New Zealand : the upper edging of the Moon from Sydney, Melbourne, and Hobart Town, will be broken by Madagascar, where a few of Baily's beads may be seen ; but otherwise (small islands, and any yet undiscovered land at the South Pole excepted) the edging closing on the Sun following the smoky-like appearance, will, at totality, be a bright wire-looking line. From the eastern side of New Guinea, small islands excepted, the half of the Moon following the smoky-like appearance

will present, at totality, one uninterrupted bright silvery-like looking line ; from the western coast of New Guinea it is just possible the upper edging of the Moon may be broken by a portion of Madagascar.

An almanack for the year 1847 states that in lat. $3^{\circ} 49'$, S., long. $154^{\circ} 32'$, E., at 10h. 24m., Greenwich time, there will be total darkness. From this spot, or from any place not very far from it, the edging of the Moon covering the Sun on the left hand side will be, small islands excepted, one unbroken smooth line.

From the east part of Mexico the upper as well the lower left hand side half of the Moon's edging will, islands excepted, present one unbroken bright silver wire-like line. It now becomes necessary to note what will be the appearance of the last half of the Moon, which will proceed to cover the Sun : that is, the half of the Moon which will be to the right hand side of the spectators. From New Zealand, a portion of the upper right half edging will be broken by Burmah and by the Chinese Empire ; all else to the right, small islands excepted, will be at totality an unbroken smooth line. From Hobart Town, the upper edging will be still more broken ; as, in addition to being serrated by Burmah and by China, it will be broken by Hindoostan ; from Melbourne and from Sydney, the extent of broken line will be still further increased ; as it will sweep round, so as from the

former place to take in and be broken by the Kurile Islands ; and from Sydney the line will be broken by these islands as well as by a portion of the Aleutian Isles, after which the line underward will be smooth and unbroken, excepting possibly by small islands.

From the east side of New Guinea, the upper edging will be broken by Persia, Cabul, Tartary, and by Russia ; it will then sweep in a smooth curved line through the Arctic Ocean, after which the edging will be broken again by the land from about Cape Barrow southward ; all the remainder of the under part will be a smooth line.

From lat. $3^{\circ} 49'$, S., long. $154^{\circ} 32'$, E. the appearance of the right half edging will not be widely different from that which will be seen from the east coast of New Guinea ; but different mountain ridges will of course break the line, as the edging will be to the east of Persia and Cabul, and will be broken by China and by Russia, and rather a longer line of Russian America will be visible.

From the east part of Mexico, both above and below the right hand side centre, a curved edging like a broken horse-shoe will be serrated ; the under side from the centre being much longer than the upper.

Should the weather be fine over rather more than half the world at a time during the eclipse, the Corona will be bright, and the greater portion

inside the edging of the Moon will most likely be a brighter transparency than that generally which was beheld in 1851 ; and if mountains should be visible within the edging of the image of the Earth, they will be conspicuous in mass in the upper quarter which last closes up to cover the Sun, and where land is, there the transparency will probably be of a deep purple and lake ; and where the ocean is, it is by no means improbable that the transparency will be a deep rose colour, tinted with a sea green.

The foregoing remarks have been penned under the supposition that the South Pole of the Earth, and consequently the South Pole of the Moon, will close in a direct, or almost direct line, on the side of the Sun towards the right hand ; but should the Moon otherwise first touch the Sun in passing over it, a corresponding change will have to be made, in the position merely, of appearances deemed likely to come in view at and from the several places specified. However, as the new theory has been explained, there will be no difficulty in identifying the edging of our planet, which will be imaged and seen, may be, on the occasion of the coming Eclipse. The descriptions afforded are for a Total Eclipse ; so if at some of the places instanced the Eclipse should not be Total, it will be easy to compare the portion which may be visible with a portion of the description ; but whenever a Total

Eclipse of the Sun may be visible at the places specified, the appearances indicated will be seen; though the positions of such appearances may alter with each eclipse. The position of the Moon being previously laid down, the edging and appearances likely to be seen from Greenwich on the occasion of a Total Eclipse of the Sun will be foretold with as much ease as the occultation of any particular planet or star is now predicted.

To conclude, if there were no resisting medium, the Earth, if it could exist in its present shape under such circumstances, would start and arrive at the same instant; space travelled by our planet in a year, would therefore be as naught, and time would exist not. From such a state of inconceivableness it can be deduced that, as the Earth takes rather over three hundred and sixty-five days to get round the Sun, it must meet with considerable resistance; wherefore the matter which is capable of retarding its progress to such a great extent must, it is conceived, be of density sufficient to show its image.

THE MOON
IS THE IMAGE OF THE EARTH,
AND IS NOT A SOLID BODY.

No. 3.

THE MOON

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AND

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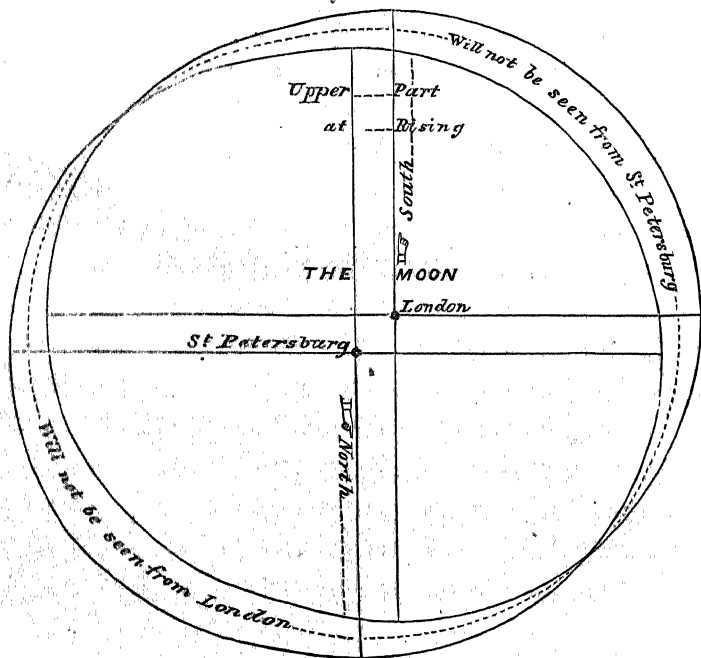
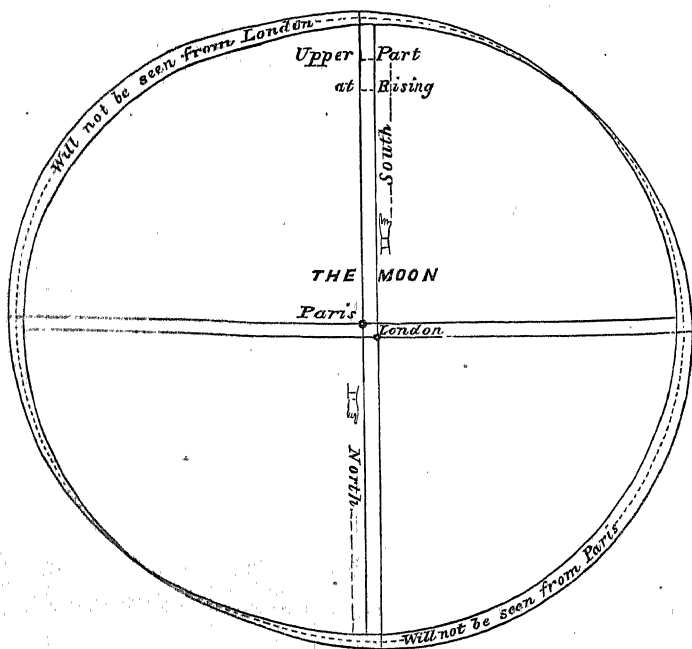
BY

THE "LONGITUDE.

PAMPHLET THE THIRD.

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AUGUST, 1857.



THE MOON IS THE IMAGE OF THE EARTH

&c. &c.

IN Pamphlet the Second, commencing at page 8, the cause of the dip, rise, and variation of the needle, is briefly touched upon, in support of the new theory, that "the Moon is the image of the Earth, and is not a solid body;" but the explanation of the phenomenon there given, seems to require modification and further consideration, for the subject is one of much importance.

If astronomers can be brought to admit that it is as reasonable that the Earth should have a distinct monthly motion, as that it should have a daily motion, and an annual motion: then the prediction of Dr. Edmund Halley, will it is conceived, be fulfilled. That celebrated philosopher, some time, it is believed, between 1672 and 1692, adverting to his own conception of Magnetic Poles, is said to have made a remark to the following effect: "Whether these poles move altogether with one motion, or with several; whether equally or un-

equally ; whether circular or libratory ; if circular, about what centre ; if libratory, after what manner—are secrets as yet utterly unknown to mankind, and are reserved for the industry of future ages.”

Exclusively of the Poles of the Earth, Halley seems to have believed in four Magnetic Poles, two in the South and two in the North ; one of the two in the South very strong, the other weaker ; one of the two in the North strong, the other weaker ; so that the most powerful of the four, according to his view, is one of the two in the South, and the next most powerful is one of the two in the North. Since Halley's time much seems to have been done by other scientific men, with a view to discover a satisfactory reason for the existence of Magnetic Poles, whether two, four, six, or more, in order to the discovery of the cause of the rise, dip, and inclination of the magnetic needle.

As long as scientific men believe that the Earth has not a distinct monthly spiral motion, so long, it is conceived, will the subject continue one of difficulty ; but if the monthly spiral motion of the Earth be admitted, the cause of Magnetic Poles will be comprehended, and the theory of the magnetic needle will be understood.

Example : The South Pole of the Earth is ever entering space in an oblique direction, while, at the same time, the North Pole of the Earth is ever

leaving space in an oblique direction; the obliquity of this motion, generally speaking, will be at an angle, say, of $23^{\circ} 28'$.

If no other motion of the Earth existed than the monthly one instanced, the magnetic needle would always point terrestrially North and South; but while the Earth is moving in its monthly path, it is revolving daily, and is being carried forward in its elliptical annual course; so that, beside the South Pole of the Earth, another point of the Earth's surface, above and in advance of the South Pole of the Earth, is ever striking space with force, whilst at the same instant, another point below the North Pole, being the last point ever leaving space, is causing considerable commotion in leaving such space. Thus, then, there are four points, two in the South part, and two in the North part of our planet, which seem to be the chief points which govern the movements of the magnetic needle.

Those two points which Halley and other scientific men designate the weaker magnetic points or Poles—one in the South, to the West of, yet in the comparative vicinity of the Straits of Magellan, and the other in the meridian of the British Isles, and which subsequently is supposed to have moved round to Siberia, will at present require a general notice merely, for the one in the North is a point in a line of longitude which is

slightly striking space, while the one in the South is a point in a line of longitude which is leaving space in a comparative gentle manner, and so causing inconsiderable commotion.

From the explanation rendered, it will be comprehended, that the South Pole and the North Pole of the Earth, are points, opposite to which in space, is ever magnetic influence of considerable force. On the other hand, the other two powerful magnetic points are never, may be, beyond the instant, exactly opposite to the same points or spots on the Earth's surface; that is to say, every point on the Earth's surface, in a given parallel of latitude South, above or in advance of the South Pole of the Earth, will, during twenty-four hours, constitute for the instant a separate powerful South Magnetic spot or Pole,—while, in every twenty-four hours, an ever-changing point or pole, in a given parallel of North latitude, below or behind the North Pole of the Earth, will constitute a point, opposite to which will be a strong North magnetic influence.

These two extra Magnetic Poles are subject to special peculiarities, and must be viewed separately from the cause which governs the daily rotation of the Earth on its axis, for the Magnetic Pole in the South, above or in advance of the South Pole of the Earth, is created, it is conceived, by the advancing action of our planet; and it will hover, during about seven days, in a space of space over a

portion equal possibly to one special and limited quarter of the surface of the Earth; so that, as all parts of the surface of the Earth in a given latitude, pass, in the course of a lunar month, under, and strike such space in space, powerful magnetic influence will be detected, it is assumed, whenever tests can be applied, at the parts of the Earth first striking, and last leaving space, in the annual course of our planet, as distinct from its monthly path.

In considering this subject, it is to be borne in mind, that when the Earth has made about seven revolutions in an oblique direction, ~~on~~ its own axis, it will have completed only about the fourth part of its monthly spiral revolution, and that a section of space, equal to one-fourth only of the Earth's surface in a given latitude, will be gradually struck with force in the course of about seven days.

To illustrate. Let the Earth, subject to qualification, be considered in the light of a sailing ship, with the wind on her left quarter, the right bow of the vessel will strike the water with force, so that the water opposite to such right bow will represent the South Magnetic Pole, that is to say, will represent Halley's South Magnetic Pole of greatest influence, and it will lead the way in the annual path of the Earth. At the left quarter of the ship there will be a corresponding reaction, which will represent Halley's North Magnetic Pole of greatest influ-

ence; the cut-water of the ship will represent the South Pole of the Earth, in its monthly path, and the rudder (immoveable for the occasion) will represent the North Pole of the Earth; the left bow of the ship, where there will be reaction of easy tendency, will represent Halley's South Magnetic Pole of minor influence; and the right quarter of the ship, where slight resistance will be manifest, will represent Halley's North Magnetic Pole of least influence.

What happens to one, or a first quarter of the Earth, in its daily, monthly, and annual motions, say from the 1st to the 7th of February, will happen to a second quarter from the 8th to the 14th of February, and will happen again to a third quarter, from the 15th to the 21st of February, and will happen again to a fourth quarter, from the 22nd to the 28th of February, and so on; for, following the bend of the monthly spiral path through a lunar month, a different point of the Earth's surface in the south, will, may be, keep presenting itself to strike space, while a different point in the North, will, may be, be constantly leaving space. Halley seems to have considered his four Magnetic Poles as fixed points, or so far stationary spots on the Earth's surface, as to be subject to slow, if not to limited, changes; but more recently, the centre of north magnetic intensity is by some of the learned considered a moveable point, and supposed to revolve

within the frigid zone. Under the explanation above given, it will be understood, that what may be called Halley's four Magnetic Poles, are never, may be, beyond the instant, over the exact same spots on the Earth's surface. Halley, however, considered the magnetic influence to be in the Earth, whereas, under the theory of "The Longitude," it is supposed to be in space, and to be caused by the Earth, more or less a solid body, entering and leaving space. It is well known that at the South Pole is much ice, and that there is much ice also at the North Pole. In advancing into space, the Earth must greatly disturb electricity, and in retiring from space, the Earth must likewise greatly disturb electricity; these disturbances, produced by opposite causes, action and reaction, seem to produce the same effect, and, through instantaneous evaporation of atmosphere, or other equivalent phenomenon at the Poles, in the absence of the Sun's power, is, probably, water rapidly condensed, and ice possibly thereby produced in such great abundance. The disturbances adverted to, no doubt cause, also, the frequent storms which visit the parts of the world in the vicinity of both Poles of the Earth. Further back, the position of the point or spot on the Earth's surface, which is ever first striking space, is assumed to be above or in advance of the South Pole of the Earth; and the position of the point or spot on the

Earth's surface which is ever last leaving space, is assumed to be below or behind the North Pole of the Earth. This view of the case may require modification, in so far that the point first striking space in the Earth's annual path, if not always above, will be always in advance of the South Pole of the Earth; and the point last leaving space, if not always below the North Pole of the Earth, will always be behind it in the Earth's annual path. Under this qualified condition, the same relative points, subject to slow change, may move through the whole monthly path of the Earth; so that a Magnetic Pole or spot in the South may for a continuance strike space, while in the North a magnetic Pole or spot may for a continuance be the last to leave space;—however, this is a point mathematicians will be able to settle, as soon as it may be admitted that the Earth has a monthly spiral path.

The foregoing reasoning respecting the compass has reference principally to the variation of the needle, and it is to be understood that by the term variation is meant a deviation of the needle to the right or to the left of the North Pole of the Earth. The tendency of the needle, may be, will generally be to the North Pole of the Earth, but it is deflected by the daily motion of the Earth, and is diverted from the direction of the North Pole of the Earth, by being dragged by a vibratory motion towards the North Magnetic Pole, and when taken near to such

North Magnetic Pole, the ordinary compass-needle has been found not to act; however, in substitution for it, a dipping-needle is used, and when under the influence of the North Magnetic Pole, one or either end, it is understood, will point over head, while the other end will point to the centre of the Earth. This state of the case arises, it is concluded, from a local, but not from an exclusive circumstance; for could the dipping-needle be used at the North Pole of the Earth, one end of the needle would, it is conceived, in like manner, rise so as to point over head, while the other end would point to the centre of the Earth.

It does not appear that the dipping-needle has ever been used so as to get it precisely perpendicular, so that it is not impossible that, what may be termed, the true direction of the needle may lie at a distant point in space, between the North Pole of the Earth and the North Magnetic Pole. In such case, the North Pole end of the ordinary compass-needle at a distance from the Poles, would vibrate between the North Pole of the Earth and the North Magnetic Pole, and the dipping-needle would, if at the North Magnetic Pole, incline slightly to the North Pole of the Earth; and if it could be got to the North Pole of the Earth, it would incline slightly to the North Magnetic Pole. A dipping-needle seems to be a rare-to-be-met-with instrument, and as, from the mode of construction, either

end will, it is said, point to or from the Earth, it is viewed theoretically, as susceptible of improvement; for were an ordinary compass-needle constructed on such a principle, the mariner, in bad weather, would soon lose his way.

The object of the contemplated improvement is to have a dipping-needle constructed so that one end should be magnetized, after the manner of the ordinary compass-needle, for in such case it is conceived that when used at a distance from the Poles, the North Pole end of such needle would point to the Earth, and that when used in the vicinity of or at the North Poles, such North Pole end of the needle would rise to space. Were the case so to happen, it would prove that the electricity through which the Earth is ever rushing has more power over the needle than the magnetic property retained in the Earth, though such property is in all likelihood ever changing, by being perpetually renewed. In such idea of improvement in the dipping-needle there is a possibility of disappointment, for, if a reaction of electricity takes place, so as to follow after the Earth, temporary recoil, as the Earth is leaving space, might force or keep the North Pole end of the needle to the Earth; whereas, could the dipping-needle be placed beyond the influence of such recoil, the North Pole end of it would possibly point in the direction of the path vacated by the Earth. Recoil of electricity at the North Mag-

netic Pole does not, however, appear to have been noticed, so that a dipping-needle constructed as suggested might act at such a point as contemplated.

What has been said of North Poles is applicable in spirit to South Poles, but the effect, of course, will be of opposite tendency, for the North Pole ends of both kinds of needles will be kept to the North, provided the suggested improvement in the dipping-needle should not be counteracted by the North Pole end of such needle being affected by recoil of electricity, at the South Pole of the Earth and at the South Magnetic Pole, relatively.

It is time now to say something of the mode in which electricity is conceived to act on the magnetic needle. The needle itself may be viewed as a receptacle, or a conductor,—in other words, it may be looked upon as a trough, a straw open at both ends, or a porous stone, in which certain fluid matter may be lodged or passed through. Example: Take a small slip of wood, or a small piece of thin iron, or a small thin bit of stone, fashioned like the needle of a compass, or take all three and pierce them through the centre, and pin them on to a small globe, so that they will revolve freely; then stick a small piece of cork on one end of each, immerse the globe in water, and drag it by the South Pole through the liquid, when all the cork ends of the experimental needles will point to the North end

of the small globe. If the globe, in being dragged through the water, be slightly turned round, so as to imitate a portion of the daily motion of the Earth, and at the same time, if it be pressed to one side of the water, so as to represent the annual motion of the Earth, the experimental needles will no longer point directly to the North end of the little globe, but will partake of a deflected motion, and of a vibratory motion likewise. Again, if any two of the experimental needles be mounted on the principle of the suggested improved dipping-needles, and the stand of one be fixed at the South Pole, and the stand of the other be fixed at the North Pole of the little globe, and the globe be then dragged under water by the South Pole, the cork ends of both experimental dipping-needles will keep the direction of the North Pole of the globe, and deviation from the direction of the North Pole end of the little globe, will ensue, if, while the globe is being dragged under water it be turned round, so as to imitate the daily motion of the Earth, and pressed to one side of the fluid, so as to represent the annual motion of the Earth. Thus, then, it is conceived, is the secret of the compass-needle, and of all magnets, unravelled, for the needle being magnetized, and one end more so than the other, the end of greatest magnetic property acts, on being passed through electricity, as the cork acts on the experimental needle when dragged through water, as described.

The conception of Halley, and of other philosophers after him, that magnetic influence on the needle, arises out of a cause which dwells in the Earth, instead of the needle being influenced by electricity,—that is, by matter in space as the Earth rushes through it,—is, with all due deference, considered to be a mistaken view of the case, for the reasons adduced; and another circumstance may be noticed as worthy the consideration of profound calculators,—it is this: when an ordinary compass-needle was being prepared by the inventor or other person, it was balanced on a pivot-point before being magnetized, but after being magnetized, it was found that the North Pole end of the needle dipped to the Earth, and out of such circumstance the real power of the earth on the needle will possibly be discovered; for as it was necessary to rebalance the needle after it had been magnetized, the unequal and limited power of the Earth over it must have been counterbalanced.

A distinguished writer of the present day seems, apparently, to be of opinion with Halley, that some hundreds of years, or a long time, will be required to establish a complete doctrine of the magnetic system, notwithstanding the great additional information which has been collected since Halley's time; but it is presumed that as long as a daily motion, and an annual motion only, are assigned to the Earth, the true system of magnetic influence

can never be discovered; so all toil to such end, if persevered in, will be but lost labour; and this will be brought home to the understanding of the scientific world, when it is remembered that the Earth may never, or not for very, very many years, occupy the exact same position twice, in its journeys round the sun. So if ten thousand tests of what are called "Isogonic lines," "Isoclinacal lines," and "Isodynamic lines," can be collected, so as to be compared, they will, it is conceived, all differ more or less, and results will leave the phenomenon in its hitherto veil of mystery.

The whole theory, "The Moon is the Image of the Earth, and is not a solid body," may of course be a delusion. However, if the conception should turn out to be a correct one, it cannot fail to lead to important results. On the other hand, if "gravity" be still maintained against "projectile force" proceeding from the sun, then the learned "in the car of the Moon's solidity" will lock the wheels of knowledge; and science, should it not actually stand still, will only hereafter be dragged on with difficulty.

That projectile force, proceeding from the sun, may be equal to the task of governing our system, none, it is presumed, need deny; nevertheless, it is true that important discoveries have been made, under a system of assumed "gravity;" but as it may be possible that the results would have been

the same if worked out under another system equivalent to "gravity," then the prevailing opinion, that gravity is all in all in our system, may be shaken.

If the belief that the Moon is a solid body be relinquished by the scientific world, it will be for philosophers to decide whether the "gravity belief" can or cannot be retained for our planetary system; if it cannot be retained, and the learned of the age should be forced into the belief of projectile force, then it can be conceived that Mercury is, in proportion to size, heavier than Venus, Venus heavier than the Earth, the Earth heavier than Mars, and so on throughout our system, the lightest in proportion to size of all the planets being outside or farthest from the Sun.

To confine the functions of the Sun to light and heat is to assign to it comparatively circumscribed power; not but, in one sense, all power in our system is supposed to emanate from the Sun, while in another sense, each body which gravitates may be viewed as independent, and yet dependent. Thus a planet is independent in being able, through gravity, to keep away from the Sun and from planets, while it is dependent on the Sun and on the planets for the place it is itself permitted to hold in space. However consistent this may seem, still there is apparently an inconsistency in such a system.

If projectile force be called in to help the mind of man to conceive that our system may, possibly, be regulated in a manner more simple than the gravity theory admits of, we have only, as a figurative example in illustration, to consider the Earth the Sun, and the sea that portion of space in which our planets move. Take corks, and cut them to the relative size of the planets, without reference to the size or position of the Earth doing duty for the Sun; and then let each model planet be weighted, and sunk so far only in the sea as to hold the relative position one planet holds to the other in space, and little will be wanting to complete a picture of a possible system of projectile force. If a daily, monthly, and an annual motion be assigned to the model planets, from a rotary imperceptible rise of the water, representing elastic fluid, in which the planets can fall and rise to the extent of the diameter of their respective monthly orbits, then moons or images of all such model planets, by reason of their respective monthly movement, can be conceived; and if all the experimental planets be peopled in imagination, the inhabitants of one planet—the Earth for instance—would see the image of their own planet, its Moon, as well as Moons or images of other planets. They might, too, as in the case of Saturn, see the atmosphere of that planet, projected, imaged, and so thrown up in space, as to look like an illuminated

ring of rings. Again, from the Earth, Moons or respective images of Mercury, Venus, and Mars, may be formed in space so as to be always invisible, or if ever visible, they might be taken for stars which come and go. All this is easy to thought, and is in harmonious keeping with what may, by possibility, be the system under which the solar world is governed.

In Pamphlet the First, page 20, it is suggested that, exclusively of ordinary tides, for about seven days, the waters of the ocean will flow from North to South, and then for about seven days, they will flow from South to North, and so on; and that such perpetual flows of the nature described do take place, owing, as is conceived, to the spiral monthly movement of the Earth, seems to be in a measure borne out, in an indirect manner, by the testimony of the distinguished navigators who have made voyages to the vicinity of the North Pole of the Earth. It will occur to all who have visited the Arctic Ocean that ships are frequently at the mercy of the ice; and that sometimes, for days together, they have been carried northward, and sometimes southward, so that commanders have lost all control over their vessels. The set of the ice in particular parts, is, of course, frequently eastward, as it is in the same parts frequently westward; but in each of these cases the struggle of the ice is to get from between broken land to the

South in one instance : and, in such attempt, that which may not be melted, grounded, or launched into Baffin's Bay, is again hurled back indirectly to the North. Immense fields of ice, that look as if they were consolidated for ever, are broken up as if by magic, leaving beholders astounded ; yet, if it should turn out on examination that it is the weekly flow of water from the South, when comparatively warm, which, on getting under the ice, breaks it up in such a wholesale manner, astonishment will cease. Icebergs—those frozen mountains of wonder—it has been conjectured, are formed from glaciers, and partially it may be so ; but if it be considered that water, flowing from the southward for about seven days, is sufficient to crush and heap up the broken-up ice, difficulty at conceiving how mountains of ice are formed will vanish ; for, according to the quantity of broken-up ice caught in any favourable locality by a flow of cold water from the southward, will be the size of an iceberg. It is a belief of many that there is no ice in what is called the Polar basin, and that a sheet of ordinary sea exists, even to flowing over the North Pole of the Earth, and that the atmosphere is milder all over the Polar basin than it is somewhat further southward.

Notwithstanding such belief, the cause of open sea being found beyond a belt of ice does not seem to be generally, if at all, understood. It will now,

however, under the new theory, occur to the thinking world that the ice in the summer months on one half of our planet at the North Pole, after being broken up, has only Behring's Straits, a comparatively narrow gate, to get out by; what, therefore, may escape by that channel may possibly, for the most part, never be able to get back again; so the quantity which may never get back will suffice, to a limited extent, to clear the Polar basin of ice. The other half of the ice in the vicinity of the North Pole of the Earth, on being broken up in the summer, will be able to flow southward by several gates, one of which is very wide; that is to say, between Greenland and Norway the ice will flow southward for about seven days; but, as the channel is broad and open, all which may not be melted or stopped on the coasts of Norway, Greenland, and Spitzbergen, will, for another seven days or so, flow back again in the direction of the North Pole of the Earth. Much of the ice, west of Greenland, which escapes into Baffin's Bay, and otherwise into the Atlantic Ocean, by channels further South than Lancaster Sound, will never be able to get back to the Polar basin, which sometimes, for about seven days at a time, in summer, may, through the causes stated, be to a very great extent free from ice, whereas, for a succeeding seven days or so, the Polar basin may be much filled again with ice; thus a succession of open sea

and a succession of an accumulation of ice will be going on till winter sets in to make fresh immovable ice all over the Polar basin.

The circumstances noticed will account for the climate around the North Pole of the Earth being milder in the summer time than it is at the margin of the Polar basin, particularly where ice may be in mass and land-locked.

If the same line of reasoning be adopted for the South Pole of the Earth, it will be observed that, there being less land in that quarter to prevent the return of ice, any South Polar Basin which may exist during the summer, for about seven days at a time, will be bounded completely, or nearly, by a circle of ice, expanding in its broken-up state to the form of a quoit, while flowing northward every alternate seven days, and when it will each time become less and less, before it returns each alternate seven days to close up again over the South Pole of the Earth. Should all the ice ever melt, the Poles of the Earth might be visited, provided of course they could be reached but for ice. If this view of the case should be considered worthy attention, the reason why ice is sooner met with in mass in going towards the South Pole than it is in going towards the North Pole will be apparent, and it will at the same time be seen that commanders of expeditions to the North have laboured under great disadvantages in not knowing the cause of diffi-

culties while the nature of them has been well understood.

Much might be written on the subject of the methods most likely to succeed in any future attempts which may be made to get to the Poles of the Earth; but the chief object now is to endeavour to bear out the theory that "the Moon is the Image of the Earth, and is not a solid body," by convincing the scientific world, if possible, that our planet has a distinct monthly spiral motion, and that it completes its monthly journey in what is known as lunar time.

In the year 1852 a map of the world, with London in the centre of one hemisphere, was published by Mr. W. Hughes, Aldine Chambers, Paternoster Row, London. This map is useful to compare with a telescopic appearance of the Moon, as seen, it seems, through Lord Rosse's great telescope by Dr. Scoresby. Such view of the moon has been published by Mr. James Reynolds, of 174, Strand, London. If these two maps, one of the Earth, the London half, the other of the Moon, be laid on the table side by side, the map of the Earth only (the London half) at the same time being turned upside down, several features of the London half hemisphere will be recognised, as pictured in Dr. Scoresby's view of the Moon; however, some places or portions of the London half of the Earth, when searched for in the picture, will appear

so much distorted as to be identified with difficulty. It is to be remembered that the two maps, the centres even of which are not exactly the same, were not prepared with any idea that one in features in any way resembled the other; yet, if the map of the Earth, upside down, be examined, Hindoostan and Ceylon will be observed to the left, and it will be seen, on a reference to the map of the Moon, that these two places are very fairly imaged; the Indian Ocean, the Arabian Sea, the North Pole, the Gulf of Mexico, the Caribbean Sea, Hudson's Bay, the North Atlantic Ocean, will all be made out without any great stretch of the imagination; Greenland looks exceedingly large and much distorted by being greatly thrown up to or beyond the centre of the picture of the Moon; while the whole of North America is fairly imaged in the lower right half of the map of the Moon. The upper or North part of South America sweeps round, so as, with Spain and the upper or North part of Africa, to cut off from view the image of the South Atlantic Ocean. Arabia looks to be mingled with the sea of the same name. The Mediterranean and the Red Sea look like one line of water, through the last named being curved downward in the picture, but it will be observed that the two waters are divided in the image.

Africa, seen in plane, narrow and distorted, forms

but a small portion of the upper and left part of the image. Russia, to the left, low down, is likewise distorted, as it curves round and up to the left; the Ural Mountains, covered with snow, slightly out of their proper place apparently in the image, can, it is conceived, be recognised. What is called the Paris basin, with Spain, Portugal, Italy, and Greece, are fairly imaged. Beloochistan, like Greenland, is much distorted, and thrown out of its apparent proper place. The likeness of the Earth to be seen in the Moon has already been adverted to in the first Pamphlet, which can now be referred to for further particulars if necessary. Dr. Scoresby, in a foot-note under his picture of the Moon, and viewing our satellite as a solid mass like the Earth, remarked that, as every object to the extent of a hundred yards was quite visible, edifices of the size of York Minster might have been perceived had they existed; but, according to the theory that "the Moon is the image of the Earth," in round numbers, every four miles on Earth will be reduced to about one mile in the picture; so that if York Minster were twice as long, five times as broad, and five times as high as it is, no image of it could be seen. The learned Doctor remarked that the general appearance of the Moon was like one vast ruin of nature.

Now if man could live and balance himself in space, with Lord Rosse's great telescope in hand,

at the distance of two hundred and thirty-seven thousand miles from the Earth, at the place of New Moon, our Planet, with the Sun shining on it as it shines on its image at Full, with its barren mountains of Europe, Asia, Africa, and America, would there need be little doubt, look the same, "a ruin of nature," and which, in a geological sense, it really is; thence, too, it is conceived, with the Sun full upon our planet, would it look as Dr. Scoresby said the Moon looked,—“like a globe of molten silver.”

It is generally supposed that one and the same face of the Moon is seen from all parts of the Earth; but under the theory that “the Moon is the Image of the Earth,” such cannot be the case. From London, it may be said, the Moon will always present the same face; and, it may be said, from Paris, the Moon will always present the same face: still the Moon as seen from Paris, and the Moon as seen from London, will never be exactly the same. The distance between Paris and London is trifling, therefore the difference between the London Moon and the Paris Moon (see diagrams, roughly sketched,) will be very small. From Paris, a thin line at the top of the Moon, that is, towards the South Pole, will be visible, which will be invisible from London; on the other hand, a thin line beyond the North Pole, or up under the Moon, will be visible from London, which will be invisible from Paris.

When places of observation are far apart, either North or South, or East or West, the appearance of the Moon will differ much accordingly. The people of London see a picture of half of the Earth, which has London for its centre; this picture is their Moon. The antipodes to London see a picture of half of the Earth, which has their spot on the face of the globe, for a centre; this picture is their Moon. So that the Moon of London and the Moon of its antipodes, will be as different as the face of the two specified hemispheres of the Earth are different.

The chief object of this third Pamphlet is, if possible, to convince the scientific world that the Earth must have a monthly spiral motion; that, instead of the orbit of the Earth, being an elliptical line round the sun, passing as it were through the Earth at an angle of say $23^{\circ} 28'$, to the Equator, the said orbit is, as it were, a monster ideal tube in space, round which the Earth winds in a spiral manner, at an angle say of $23^{\circ} 28'$, completing a spiral curve in what is known as lunar time. If this theory should ever be admitted, the Moon, it is conceived, will no longer have a right to be considered a solid body; and although it is an object which has puzzled the world for ages, it will no longer continue a mystery, to baffle the understanding of mankind.

The diameter of the monthly orbit of the Earth

is, of course, two hundred and thirty-seven thousand miles; therefore, in round numbers, its circumference will be about seven hundred and eleven thousand miles, which is its monthly journey; so that its daily rate, if viewed for the occasion as distinct from its annual progress, will be, say twenty-five thousand miles, which will give rather over a thousand miles the hour, which is rather over the rate the centre circumference of the Earth moves on or round its daily axis; thus, on the above rough estimate, while the Earth is making a daily revolution, it is moving obliquely through space, to the extent of rather over three times its own length from Pole to Pole.

It is admitted by astronomers that the Sun appears to increase and decrease in size, showing that the Earth is not always at the same distance from it; but the cause of the increase and decrease in the apparent size of the Sun is ascribed to the annual path of the Earth being at unequal distances from the Sun; it must therefore be concluded that the approach and retirement of the Earth in its monthly orbit, is, astronomically speaking, so minute, that no difference in the look of the Sun owing to such cause has been detected, although what are termed perturbations and nutations pertaining to the Earth, and which, of course, are imitated by the Moon, are known to exist; and these symptoms, when more attentively examined

than they have been, will, likely enough, corroborate the new theory, by revealing the monthly spiral motion of the Earth.

At page 36 of Pamphlet the Second, the body of the Sun is alluded to as being nearly twice as big only as the monthly orbit of the Earth; and at page 37 of the same Pamphlet, the monthly orbit of the Moon is adverted to as being in effect the monthly orbit of the Earth. It is true the diameter of the sun is nearly twice as big only as the diameter of the monthly orbit astronomers assign to the Moon; but, under the new theory, the diameter of the Sun, it will be understood, is nearly four times as big as the diameter of the orbit of the Moon, for the Earth and the Moon merely lace the circumference of an ideal tube in the heavens, the diameter of which tube is about 237,000 miles only.

In all three Pamphlets there are, doubtlessly, misconceptions and mistakes; but if the important part of the subject should be found worthy of credence, the errors in the Pamphlets will be what the planet Mercury sometimes is, when in the blaze of the Sun,—an imperceptible speck.

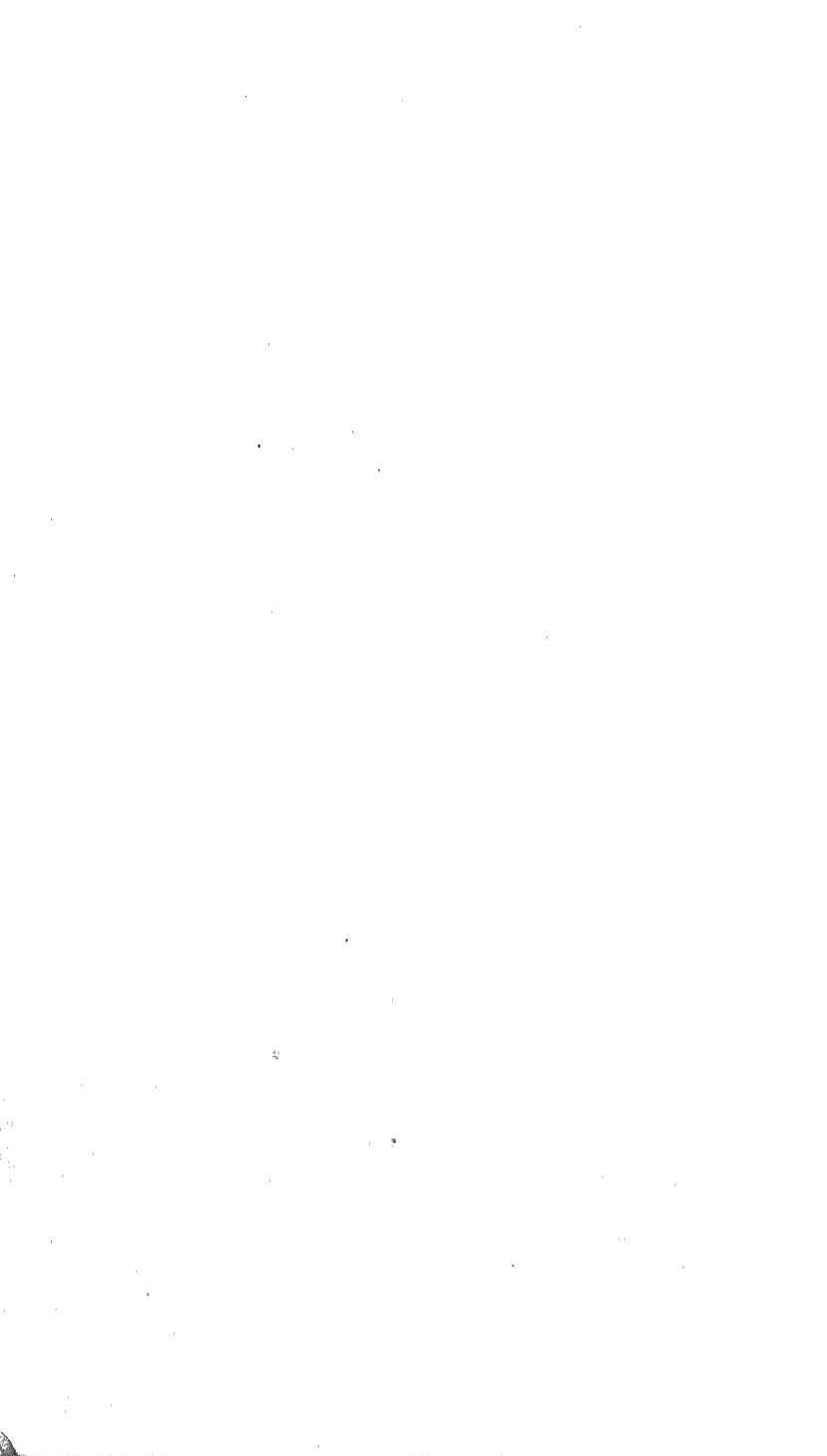
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THE MOON
IS THE IMAGE OF THE EARTH,
AND IS NOT A SOLID BODY.

No. 4.



THE MOON

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AND

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BY

THE LONGITUDE.

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PAMPHLET THE FOURTH.  
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CALCUTTA :
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MARCH, 1858.

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THE MOON IS THE IMAGE OF THE EARTH, &c. &c.

THREE Pamphlets have already been printed, in the hope that Astronomers will, sooner or later, view favorably the new theory.

‘The Moon is the Image of the Earth, and is not a solid body,’ and this fourth Pamphlet, which is directed to the same end, will, at the same time, it is trusted, enlist Geologists in the cause, by carrying them through a difficulty, which, in their interesting and beautiful study, they have in vain endeavoured to unravel, viz. The cause of the last Deluge, as well as the cause of previously repeated destruction, of animal and vegetable matter, on the face of our Globe, which has, as often and ever, been preceded by a sudden, general or partial derangement of a superficial coating of the crust of our Planet.

According to the calculation of Geologists, the entire surface of our Planet has been completely disturbed about two and thirty times, that is, four times before animal or vegetable matter is suppos-

ed to have existed, and eight and twenty times after animal and vegetable matter had appeared on Earth, such eight and twenty creations having one and all, at long intervals, been suddenly destroyed, and swept away.

If not the opinion of Geologists generally, it is the belief of a great and learned man of the day, that there is nothing we know of, under the old view, as connected with our Planet, to prevent like catastrophe after catastrophe; again occurring, as our Globe is supposed to contain inwardly the same combustible agency it has ever possessed, and to such agency it has hitherto been imagined, is to be ascribed the numerous instances of the sudden destruction of all life, animal and vegetable, which, from time to time, has been called into existence by the Creator.

It is taken for granted, that what has been told to the world by eminent Geologists, that our Planet, as far as its surface is concerned, has been repeatedly destroyed, is a matter of history, which, in a general sense, is not disbelieved by astronomers, or by civilized mankind.

Geologists, and those who take an interest in their labours, are therefore invited to give unbiased attention to the following conception 'of the last Deluge,' and of other deluges, past, and to come.

It has been laid down in the previously printed pamphlets, already adverted to, 'The Moon is the

Image of the Earth, &c., that our Planet has a monthly spiral motion, and that its inclination of about $23^{\circ} 28'$ in its orbit, is caused by the curves of its monthly spiral path, being at that pitch, so that as the South Pole leads the way in its monthly path, and consequently, in its annual tour, the inclination of our Globe, as there is no up and down, in an astronomical sense, is the same to all appearance, as if it (our Planet) went round the sun, on a smooth ring-shaped orbit, at the above specified inclination with the North Pole ever uppermost, and as usually represented in astronomical plates, illustrations, &c.; and if this circumstance be constantly kept present in the mind, the cause of 'the last Deluge' can, it is considered, be accounted for, and the simplicity of the phenomenon, once satisfactorily explained, all deluges, which previously occurred, no matter how many, will be understood, and that a countless number, may yet take place, can be, and will be, readily comprehended.

Under the new theory, it is assumed, that prior to the last Deluge, the present South Pole of the Earth had, for ages, been the North Pole, and that it occupied the place, or nearly the same place, in space, as is now occupied by the present North Pole, in other words, the present South Pole of the Earth was the Pole, which before the last Deluge was the one, which, for ages, was the last to leave space, while the present North Pole was the Pole, which,

for ages, was the first to enter space, in the monthly path, and annual tour of our Earth round the Sun.

The cause of the change of position in space of our Planet was, it is conceived, owing to the shifting of a coating of the crust of our Globe, brought about by gradual hydraulic pressure, which in the end suddenly overturned 'the Earth,' so that while our Planet was in the act of turning over, all life, animal and vegetable, was suddenly swept away, and destroyed, excepting such as we are taught to believe, it pleased God to spare.

It has already been noticed, in the adverted to, previously printed pamphlets, that in the monthly spiral motion of the Earth, as the South Pole, the ever leading Pole, descends, the tendency of water will be to the South, for about seven days of a first section of a spiral curve, and as the South Pole ascends the flow of water, for a second section, of a spiral curve will be to the North, for about seven days; again, the South Pole will descend, for the third section of a spiral curve, when the flow of water will be to the South for about seven days, and then again the South Pole will ascend, for the fourth section of a spiral curve, when the flow of water will be to the North, for about seven days, so that four alternate changes in the direction of the waters of the Ocean are supposed to take place in the course of every lunar month.

That such a state of things existed before the

last flood, seems to be, almost, if not quite, certain, and assuming such to have been the case, we can foresee and believe, that, at any moment, the world may again turn over in its monthly spiral path, by the present southward, lighter but balanced hemisphere, becoming gradually at first, and then suddenly the heavier hemisphere, at which last epoch, it would at first gradually dip, till gaining more and more weight in its descent, by the rapid shifting of the dry land coating of the crust of the Earth, it would each second, increase its speed, till completely swung underward and backward, so as to become a new North Pole, through its suddenly acquired superior weight: while the Southward hemisphere would be thus in the act of dipping and sweeping round underward, and to the rear, the present North Pole would be ascending and turning over in its spiral path in a forward direction: for on the dry land coating of the crust of the Earth, slipping Southward, it would be replaced by lighter matter, that is to say, it would be replaced by a superficial coating of water, and so coated with oceanic fluid, it would become a southward hemisphere, and as the lighter of the newly formed hemispheres it would eventually, if not immediately, lead the way in space, as the present southward hemisphere now leads the way, in the monthly path, and consequently in the annual tour of our Planet, round the Sun.

During the occurrence of a catastrophe of the

nature contemplated, it is easy to foresee, that all living matter, whether animal or vegetable, would be suddenly displaced, destroyed, and, for the most part, suddenly or gradually deeply buried.

It requires no effort of the imagination to perceive that some time would elapse, after the overturning of our Planet, before unusual oscillation would cease, and that ages might pass away, before the surface of our globe might be again adapted for another creation, for, although the Earth would, there is no doubt, be forced round the Sun, in an annual orbit, about as distant from that luminary as its present one, our Planet might be long before it acquired a daily, monthly, and annual rate of motion, such as at present is existing, to fit it for a new world of life, animal and vegetable.

It is well known, that the Poles of the Earth have been very gradually, and are still very slowly, changing their position in space, and the most learned, who have reasoned upon this subject, believe that the change will go on to a certain extent only when, a counter-change will take place, acting as a balance of power, so as to secure the stability of our portion of the solar system; and this is true, but it is true only, in a limited sense, for while this slow process of balancing, and counter-balancing, is going on, the southward hemisphere is slowly, but surely, becoming heavier and heavier. To illustrate, let it be supposed, that Africa were

gradually and slowly to slip, and approach the South Pole ; it can be comprehended that the North Pole of the Earth would slowly rise, so as to move gradually away, from pointing to the North polar star, and if this shifting of Africa were to go on, without some counterpoise intervening, remarkable changes, on the face of our Globe would ensue, but, if after going to a certain extent, its motion were to be checked by a slow and gradual movement southward of South America, and of Australia, the North Pole of the Earth would commence to fall, and in the course of time, it would go back to a position, it might have held, ages before ; if it were not for this balancing, and counter-balancing, of slowly shifting matter, composing portions of the coating of the crust of the Earth, animal and vegetable matter, might be slowly destroyed, instead of continuing to be suddenly swept away, by the sudden overturning of our Planet.

This line of reasoning admits of being greatly enlarged upon, for change of position need not be confined to Africa, South America, and Australia, as changes of the description instanced, can be applied to any portions of the coating of the crust of the Earth, whether above or below water, for if the shifting of one portion will derange the direction of the poles of the Earth, the shifting of another portion will re-adjust them, and as to the time occupied, it is the same in principle, whether it be days, years, or ages.

The dry land of the Earth is roughly compared to the unevenness of the rind of an orange, bulk for bulk; but if it be considered that the Earth may have been correctly balanced, when all land was evenly submerged, and an even layer of water covered the face of our Planet, it is easily comprehended, that the original balance of our Globe was disturbed, when a coating of the crust of the Earth got heaped up, and became dry land, for as a grain of sand will turn a comparative large scale, so a coating of the crust of the Earth, however insignificant in weight, as compared with the general mass of our Planet, was, it is conceived, sufficient to alter the motion of our Globe, so that after the heaping up of land, it could no longer move in space, as it had done before dry land had appeared.

That our world will sooner or later turn over, all will sooner or later believe, unless, indeed, all land should be gradually, and evenly submerged, and water only should evenly cover the face of our Planet, in which case, it might never again turn over, but under such a circumstance, animated matter, whether animal or vegetable, pertaining to dry land, could no longer have a being, and the world, if continued to be stocked with a creation, such creation could only consist of beings, which now exist in the waters, or of such other creatures, as might, at the will of the Creator, be destined to in-

habit the universal water, in addition to, or without, the present stock of living matter. Judging from History, sacred inclusive, such a state of things seem to have had existence for a time, after the creation of our Planet, that is to say, our Globe was once covered with water, and dry land existed not.

It is well known to the scientific world, that changes are taking place in the northward portion of a coating of the crust of the Earth, and that such changes have been noticed, as going on for years past. The nature of such changes, it is not difficult to conceive, for when our world last turned over, there is reason to suppose, that land covered the whole of the present North Pole; this earthy matter, through hydraulic agency, has been, there need be no doubt, gradually displaced, and forced southward either under or above the Sea level, or both, through the alternate flow of water to the North, and thence to the South : more and more of the earthy coating of the crust of the Earth, there is reason to believe, is being forced southward every month, and should the southern half of our Globe ever become the heavier of the two, our Planet must, and will again, turn over, and, as conceived, come when that period may, all living matter will be suddenly swept away and destroyed.

As the balanced, yet heavier, part of the Earth is conceived to be the last part to leave space, it is inferred that the motion of our Planet is not that

of an ever-falling body, but is that of an unequally loaded globe, the lighter half being made to lead, whereby the heavier half is compelled to follow, were it otherwise, the magnetized end of the compass-needle would, it is conjectured, point to the South, as the South Pole would be the last of the two Poles to leave space.

If learned and scientific men will disengage a small globe from its stand, and will then, attentively, examine the parts which represent land, and the parts which represent water, it will be observed, that on placing the thirtieth degree of East Longitude, (or a line of longitude thereabout) under-most, much water will be on the upper side of the globe, and that a part of Asia, with Sumatra, Borneo, New Guinea, New Zealand, with all Australia, will balance and be counter-balanced by North and South America; the balancing arm, curving round on the one hand, the counter-balancing arm, curving round on the other hand, of the central preponderating mass of dry land, so that our Planet in being pulled forward, or attracted onward, by the sun, through space, from the South Poleward end, in its annual course, must make its yearly circuit, not in a smooth ring shaped orbit, as hath hitherto been supposed by Astronomers, but it will, and must, it is conceived, perform its annual journey, in an orbit, composed of spiral curves, and it is such spiral track, which constitutes, the already-often-times-adverted-to, monthly

path of the Earth, for, as the spiral curves are at a pitch of $23^{\circ} 28'$, they give our Globe the appearance of a perpetual sideway movement round the Sun, at an inclination of $23^{\circ} 28'$.

In Pamphlets one, two, and three, it was assumed that all parts of the Earth would be pictured in the Moon, and that 90° all round any given spot, such as London, New York, Sydney, &c., would form such relative Moon, or picture of the Earth, and in a sense, theoretically speaking, it would be so, were our Globe evenly weighted, or there would be no Moon at all.

Since printing the first three Pamphlets, views of the Moon have been obtained, hundreds, as well as thousands, of miles from London, and practically speaking the appearance of our satellite, by reason of our Planet, being unequally weighted, will, it is concluded, be not exactly the same to the sight, though the same, or nearly the same, in reality, to all, in all parts of the world.

At page 12, Pamphlet the third, it will be seen, that it had not escaped observation, that particular parts of the Earth's surface might strike space for a continuance, instead of only in turn, instead, therefore of its perplexing the mind, the cause why the same picture, or almost the same, is ever seen in the Moon, can, it is conceived, be reasonably explained.

A coating of the crust of the Earth makes our

Planet heavier on one side, than it is on another side, and it is inferred, that it is the heavy side only, which is pictured, as it always keeps on what may be designated the outer side, as our Planet moves spirally through space; it is therefore this heavy portion balanced, and counter-balanced, on either hand, as already pointed out, which makes the Earth swing round, or revolve daily, not on its centre, but round a centre, so that the ever inner, or inward, light side of our Globe, if pictured in space, cannot be seen from the surface of the Earth, and were it not, that the Moon, that is, the ever-out side portion of our Planet is pictured obliquely in space, the inhabitants on the inner, or ever inward side, of the Earth would never see a Moon at all, for as now observed, and explained, they do not, it is conjectured, see a picture of their own light side, but see a picture of the heaviest part of our Planet, that is, see a side, or the side, on which dry land has been heaped up.

Owing to this modified view of the case, it will be necessary to rectify some of the directions previously given for identifying land and sea of our Planet imaged in the Moon, which shall be done accordingly.

To turn to another subject of interest as bearing on the new theory, it will be observed, on examining a globe, that most of the extremities of land, which have direction to the south, are pointed, and such for-

mation, has arisen, it is conceived, from the wash, and pressure of water from the South to the North, every alternate seven days, nevertheless the general preponderating tendency of the upper coating of the crust of the Earth, is, as has been observed, southward, whether above water, or below the sea level, or both; and well and truly has it been observed in Scripture, that the last day will come as a thief in the night.

The exception, to land of magnitude, having a southern front not pointed, is that of Australia, yet in this instance, although the water to outward appearance has mastered the land by washing it away in the centre, the extremities of the land, East and West, forming the southern front, are, more or less, pointed.

In support of the view entertained, that a coating of the crust of the Earth is gradually moving southward, by the force of a preponderating hydraulic pressure, at and from the North, it may be instanced, that History informs us, that the East side of Greenland is being gradually raised, while the West side is being gradually depressed; again, History tells us, that the whole of South America is gradually sinking, while on the California side of North America, for a considerable space, land has already been submerged.

Mountain ranges, seas, &c., have been formed, it is conceived, owing to the following specified

causes; when the world last turned over, the upper coating of the crust of the Earth slipped from the then North (which is the present South) towards the then South, (which is the present North) so that all soft foundations of seas and lakes were in the general land slip, from former North (present South) to present North (former South) crushed up in lines of latitude, and became mountains, single or in chains; this will account in the clearest manner, for fossil remains of shell-fish, &c. &c., being found on the tops of lofty mountains.

For days, or long after the last deluge, the sway of the waters of the ocean must have been great, and if we look at South America, we find vast oceans on either side of the land, so that when such waters had lost their stability by the over-turning of the world; it is easy to conceive, that prodigious hydraulic pressure, created the Andes; and it is remarkable that the more mighty water of the two, is on that side where the land was crushed up, showing that, although met by a counter-pressure, its force was, to a certain and limited extent, irresistible.

It may, under such view of the case, be considered in a general sense, that mountains were, according to their relative directions, heaped up by the over-turning of the world, or by hydraulic pressure after the world had been over-turned, and

before the great waters had become still in an ordinary sense, and as they are now found to be.

If, after the over-turning of the world, we consider that minor adjustments took place; we can conceive that Africa, South America and Australia moved southward, and that by the process of partial or complete separation, the Mediterranean, the Black Sea, the Red Sea, the Persian Gulf, the Caribbean Sea, the Gulf of Mexico, and the Seas between Australia, and the main land, were formed; and if such changes were convulsive, rather than gradual, particular mountains, or ranges of mountains even may have been formed by the crushing up of land.

If land and water immediately after the deluge were very differently distributed to what they are now, the world must have been different to what it is, for it could not have moved as it does move, and if any great change should take place, in the distribution of land and water before any overturning of the world, or submerging of all land; all living matter may be suddenly destroyed, so the provisions of holy writ can be fulfilled, without the necessity of any disbelieving in the new theory, on the plea that any portion of it is opposed to what is recorded, literally or figuratively, in Scripture: to follow up this line of reasoning, if our Planet were, through the agency of the Almighty, to become in the least degree lighter than it is, it might fly off a million of miles further away from the Sun, when all living

matter might be instantly destroyed by cold : if, on the other hand, our Globe were, through the intervention of the same supreme agency, to become in the slightest degree heavier than it is, it might fly a million of miles nearer to the Sun, in which case all living matter might be instantly destroyed by heat, thus it is easy to believe, that all living matter may be destroyed in a moment, and ages before the world may again turn over, and which it will do, it is conceived, in the event only of what for ages has become ordinary circumstances, being permitted by the Creator to run their course.

It will be evident from what has been written, coupled with what is known to Geologists, that formation after formation of dry land has been subjected to gradual changes after each deluge, and that sudden displacement of land, and consequently of water, has followed each such gradual change, from which it may with safety be inferred, that a coating of the crust of the Earth, sometime after the first formation of our Planet, when all land is believed to have been under water, shifted its position owing to unequal, but gradual, hydraulic pressure, and that since such first shifting, a coating of the crust of the Earth, has shifted its position, upwards of thirty times ; that on each occasion of land in mass, slipping from the direction of one Pole to another Pole, the world has each time turned over, and all living matter has, as a necessary consequence,

been suddenly destroyed, swept away, and then, for the most part, covered up.

All who believe in the new theory, will at once see that as far as our Planet is connected with the Solar system, or with the system of the universe, its surface cannot be viewed by man, as stable, excepting in a qualified and limited sense, for he, with all animal and vegetable matter, unless previously destroyed, will, in all likelihood, pass away, when the world may again turn over.

If the scientific world will meditate on the new theory, without bias in favor of the old existing theory, it will, it is conceived, appear evident, that when the upper coating of the crust of the Earth slipped from the direction of ~~one~~ North Pole, and made another North Pole, in the opposite direction, that whole forests must have been crushed up, and buried, and that these buried forests are our present coal fields.

To make the picture more vivid and complete, let us imagine another over-turning of our Planet, when all the trees in the great forests, which lie to the south of mountain ranges in the present day, would be first crushed together while standing, then they would be swept away, and then the whole in mass roots Earth around them and all, would be covered up; so, that after a new creation, man, if re-produced on Earth, ages hence, would find coal fields, thousands of miles, from where forests now

exist: the explanation here placed before Geologists will, possibly, enable them to dismiss from their minds the supposition, that for thousands and thousands of years all parts of our Planet were of one temperature, for it will occur to them that if fossil remains of Elephants should be found after the next deluge, they would be discovered at or near the new North Pole, that is, not far from the present South Pole, which after the next flood, will once more become the North Pole; it does not follow that a present North Pole will become an exact future South Pole, or that a present South Pole will become an exact future North Pole, for it must, on each occasion, depend on how the upper coating of the crust of the Earth may slip, and how, after minor adjustments may take place, our Planet may be made to revolve to fit it for a new creation. Possibly enough has been said to satisfy Geologists that fossil remains of animals, known to have existed in a hot climate, and which fossil remains are now found in a cold climate, is no cause whatever why all the world since the time of dry land should ever have had one temperature, for if fossil remains of the North Polar Bear were to be found after the next flood, it can readily be believed, that some, at least, would be discovered at or near the Equator; that is to say, they might be found in a very different latitude to that which North Polar Bears now exist in.

If we refer to the outline of the land and water on the face of our Planet, it will not fail to strike the beholder that when the next, or coming, deluge takes place, portions of the land will, in all likelihood, be much less disturbed than other parts, thus, North and South America, in slipping Southward, might be stopped, on Cape Horn closing up to the South Pole, Africa and all the land north of it, would probably be stopped in its southward course, on the Cape of Good Hope reaching the South Pole, and if Hindoostan and the Burmese Empire were to break away, those places, with all the land north of them would slide down towards the South Pole, going thereby a vast distance at a prodigious rate before being stopped; Australia would slip, but less rapidly possibly, than the countries last specified, as it would have a shorter distance to go, thus changes in America, North and South, would be comparatively small; Africa and Europe, Arabia and Persia would be more disturbed, while all Asia, and China, would be hurled to such a distance, that the complete overthrow of all mountains can readily be imagined: indeed, if North America were to slide free of South America, it will be perceived that the South Pole, which would suddenly become the new North Pole, would be completely covered by dry land, so that the position of the Poles would be, what may be termed, up and down, and the general movement

of our Planet would be widely different to what it is; and ages might elapse before water might displace a sufficient quantity of land at the new North Pole, so as to lower, or bring down, the new South Pole, in such a manner, as to give our Planet a rate, and kind of motion, resembling that which is now existing, for, till some such rate of motion might be re-established, there is some cause to suppose, that our Planet would not be fitted to receive a new creation, resembling the type which is now spread over the face of the Globe.

If we examine the land and the water on the face of our Planet, relatively situated, North and South of the Equator, it will be observed, that as far as can be judged, from the visible dry land coating of the crust of the Earth, a great deal more land must be washed southward before our Globe can again lose its balance, and turn over, however, practical scientific men, it is predicted, will have grave questions to answer, if the new theory should be recognised: thus, is the water less deep in the North Atlantic than it is in South Atlantic, is the North Pacific deeper, or less deep than the South Pacific, and finally, is the Indian Ocean deep or shallow. If the waters of the South are more shallow than the waters of the North, it will stand to reason, that the coming deluge may be nearer at hand than the smaller proportion of, visible land southward may lead man, at first sight, to conclude.

In this Pamphlet some hope is expressed, that Geologists may espouse the cause of the new theory, and, beside enlisting the good services of such a class of scientific men, it is earnestly trusted, that the most eminent Mathematicians of the day will come forward to demonstrate the impossibility of our Planet, unevenly weighted, as it is conceived to be, moving in a smooth shaped oval orbit, as it is by Astronomers represented to do, the North Pole being figured as up, the South Pole as down, while the whole mass is supposed to move sideways, over a broad belted surface, round the Sun, at an inclination of $23^{\circ} 28'$.

To illustrate in opposition to the view entertained generally, let us suppose a Globe hollow or solid, for it will be the same in principle in either case, composed of light and heavy materials; the upper covering being an even coating of all water, supported on a foundation of earthy matter, and that in the first instance, such Globe be evenly weighted from its centre to its surface: it can be understood in such case, if motion be imparted by a controuling power, such as a Sun, it might, could, and would, most likely go round such Sun in a circular-shaped orbit, and without reference to any particular part of such Globe, being constrained to lead the way for a continuance; but if a coating of the earthy basement should get displaced by, and through, an unequal action of the water, so that

dry land should appear and get heaped up far higher than the original water line had ever been ; it stands to reason, that the original balance of the Globe would become disturbed, for it is impossible, that heavy matter such as Earth and light matter such as Water, could materially alter their original position, without altering the direction of motion, as well as the rate of direct motion of a Globe.

In alluding to the insignificant height of land generally, and of mountains in particular as compared to the mass of the Earth ; Astronomers seem to have over-looked, or, never to have dreamt of the following circumstance.

It is to be remembered, that if more or less six miles in depth of Water, originally covered the whole face of our Globe, it is not only dry land generally, with six miles in height of mountain masses, which was brought to bear on the general mass of our Planet, so as to disturb its original balance, for wherever dry land is, there, there must be, say six miles in thickness of wet land, under the whole of the dry land, so that the two, that is, both the dry land and the wet land must have been raised above the original land, which the base of the original covering of water rested on.

After giving this subject due and mature reflection, it must, it is conceived, satisfy the most profound calculators, that our Planet cannot pass

through space as it did before dry land had appeared; that dry land, with its far spreading immense foundation of wet land, raised above the original basement of universal water, was sufficient, to alter the original balance of our Globe, and that although now poised in space as it originally was, its motion is affected by resisting medium acting on a limited irregularly raised, uneven surface, which did not originally exist; that is, acting on the heaped-up dry land in particular against a projectile force, so as to give our Planet in its annual circuit, a monthly spiral motion, with which last, more especially, is coupled a daily motion by reason of our Globe, being unequally weighted, through which cause it is swung round by the heavier side of two sides, so as to make about eight and twenty turns in a spiral curve, or while completing a monthly journey in its annual tour.

It has been supposed, that in the course of each Lunar month, four changes take place in the tendency of the waters of the Ocean from South to North and from North to South; but it follows as a matter of course, by a possibility, that such changes may be two only, but whether four or two, the theory remains unaffected.

Geologists, it is believed, are of opinion that on all occasions of a creation having been destroyed, that the destruction has been of a sudden nature, and such view completely bears out the new theory,

that the World has suddenly turned over again and again in its monthly path.

In this fourth Pamphlet, it has been explained, why one side and one side only of what is called the Moon is seen in space, and it is now deemed right to rectify some errors, which seem to have occurred in Pamphlets one, two, and three, not that a few unimportant mistakes are likely to weaken the new theory, for as we proceed to remedy defects in first conceptions, it will, in all probability, gain strength.

But to proceed, on moving a considerable distance Eastward from London for instance ; it was, theoretically speaking, considered that objects seen on the margin of the Moon to the right hand would gradually disappear, and that objects not visible from London, would gradually come in view on the margin to the left hand side of the Moon ; practically speaking, however, such was not found to be the case. From London a large mass seen in the Moon was taken for a likeness of Greenland, much distorted and thrown up in the picture, this same mass, when viewed from Calcutta, is a good likeness of Africa with Madagascar by its side. Hindoostan and Ceylon, from London seemed to be fairly pictured in the Moon, and nearly in what may be called their proper relative position ; but these same places, although they maintain much the same outline when viewed from Calcutta, look to be cut off

from the land Northward, and appear to be swung round with the base in the direction of Africa. If we hold a Globe in our hand and fix on Calcutta as the spot from which to get a good view of Africa, it will be seen that the line of sight will pass from Calcutta through Bombay, or thereabout, so as to cut off all India, south of those two places, and this may be the cause why Hindoostan and Ceylon, in the picture do not hold the same direction when seen from Calcutta, as they do when beheld from London; again, what in the Moon from England, looked like the upper or North part of Africa, with the Mediterranean below it, from Calcutta looks more like Australia, distorted by being brought into the field of view with the Australian Ocean below it. North America, and the upper or North part of South America, conceived to be fairly imaged from London, are not so well defined when viewed from Calcutta.

The large dark spot or patch on the right upper margin of the Moon, which is visible from London, is likewise seen from Calcutta, though at particular stages of the Moon in going up to full, instead of looking of a round or oval shape, is, at first, a long dark mark like an Inland Sea, after which it assumes its oval or round form again. If, what is supposed to be a good picture of Africa, the point of view being Calcutta, should prove in a satisfactory manner to be a likeness of that quarter of the Globe,

a curious distortion will be remarked as connected with the Mediterranean, Black Sea, Red Sea, Caspian Sea, Persian Gulf, Sea of Aral, &c., for these Waters look to be massed together and appear with the Baltic, to join the Arctic Ocean, but strange enough, the entrance to the Red Sea, is in the picture in its proper place, and gives the image of Africa the appearance of the face of a man with a large hooked nose, which the outline of land, as laid down on Maps and Globes really resembles, provided Africa be looked at upside down, that is, with the South end up, and with the North end down, when what may be designated the nose will point towards the left hand side, and so is it in the picture.

If we view the daily motion of the Earth, as a swinging revolving one, peculiar to a globular body pierced, figuratively speaking, through the centre, but weighted more on a one half than on another half, it can be understood that a Globe so constituted, would move in its daily course, in its monthly spiral path after the fashion of a crank, and that the image of the heavy side, would not at all hours of the twenty-four be visible from one and the same spot on the Earth's surface; but it would come in view and go out of sight as the Moon appears, and disappears, gradually, and in succession to all in all parts of the World.

To illustrate, let us suppose, (for one example merely,) the heavy side of the Earth, for a portion of

twenty-four hours to swing round, so that a likeness of it could be seen by being obliquely imaged in space from the direction of the Sun, as if beheld in a concave mirror, and that we call that likeness of our Earth the 'Full Moon ;' now when the heavy side of our Earth swings round so as to be withdrawn from the mirror side in space, although it keeps an outside position with reference to the light side, still that outward position for a time of twenty-four hours would be swinging round towards the Sun, that is to say, it would be swinging round outside, or away from the direction of the inside of its monthly monster ideal tube, and while so situated, we may presume that it is not imaged in space, so that the Moon can be seen from the surface of the Earth.

In such a position of the heavy side of the Earth, the light side, by reason of the crank like daily motion of our Globe, would be further away from the mirror in the great tubular vault of the Heavens than the heavy side was, when swinging in the same direction, so that no image of the light side would be seen.

If this elucidation is deemed sufficiently clear and sound, it will, when coupled with the ever-changing position of the Earth, in its monthly spiral path, account for the appearance and disappearance of our image, as well as for the different stages of the Moon, throughout its monthly course.

It will be understood, that the heavy side of our Planet is supposed to be that side, where dry land is heaped up in greatest mass, and that in the Moon will be seen, more or less, clearly, according to position, portions of the great picture of that heavy side of our Planet.

Thus, from New York, so good a picture of a portion of the heavy half of the Earth, might be seen, as not to be mistaken, while other portions of the great picture might be so distorted and confused, as not to be recognized, as resembling any parts of the surface of our Globe. Let us say too, that from London, Hindoostan and Ceylon, are so distinctly imaged, as not to be mistaken, and that from Calcutta, such a good likeness of Africa and Madagascar can be obtained, as to leave no doubt, that an image of those places can be seen from the surface of the Earth.

In a case of the sort contemplated, by scientific men in different parts of the World, giving the good likenesses only of places as seen by them, such good likenesses might be joined together, when a complete good Map of the heavy side of the Earth, as seen in the Moon, might be given to the World.

The reason why, creation after creation has differed, is ascribed to a difference each time in the movement of our Planet, for, if after the next Deluge, our Globe should move differently to what

it does move, it can be understood, that, although man might not be able to exist on a new formation of the crust of the Earth, a being, something like man, might be created, and so might it be, as it appears to have been flood after flood, with all other living matter.

Let it then be understood, if the flanches of our Planet; that is to say, if the dry land after the next Deluge were to be more heaped up than it is now, the Earth would meet with greater unequal resistance than it meets with at present, and the range of its monthly course would be increased, so that every month, not our month, but a longer month, the Earth would go a little nearer to, and a little further away from, the Sun, than it does now; on the other hand, if dry land were not to be heaped up so high as it is now, the monthly spiral range of the Earth would be less than it is, so that our Planet would never go quite so far away from, or quite so close to, the Sun, in each month, (not our month, but a shorter month,) as it does now. Thirdly, if dry land were to disappear altogether, and be evenly submerged, so that an even coating of Water were to rest upon a smooth coating of the crust of the Earth, the orbit of our Globe would be, say, about midway, between where the Earth and the Moon now are under the new theory; so that in two out of the three cases, new creations of man and animals would, in all likeli-

hood, differ from present man and animals; and in the third case, man, and animals which pertain to dry land, could have no existence.

The new theory, as touching the spiral motion of the Earth, seems to account in a simple and comprehensible manner, for Earthquakes, Volcanic Eruptions, formation of new Islands, sinking of some portions of the surface of the Earth, and upheaving of other parts of dry land, for there is good reason to suppose, that owing to a constant shifting of a portion of a coating of the crust of our Globe, its motion is not exactly regular, wherefore occasional strainings occur to it, while in the curvatures of its monthly path, which must, at times, cause its surface to open in some places, while in other parts, on the opposite side even, the land would get crushed up, or be made, for a time, to vomit forth matter: an unusual local pressure, indeed, of resisting medium, on the surface of the Earth, owing to the slightest accession of speed, in the motion of our Globe, would, as one of many causes, suffice to make matter spout forth from the interior of our Planet, and as to the sometimes, molten state of the matter ejected, coupled with ~~the~~ flames of fire, ashes, &c., there need be no surprise, for it is well known, that a suitable combination of the materials of which our Planet is composed, will produce Earth, Air, Fire and Water, in every conceivable stage and state. A strain and pressure on any of the

great bodies of land would force islands out of the Sea, and they would remain, or disappear, according to whether the masses strained and unusually pressed, which sent them forth, reverted or not, to a previous state. On the same principle, rising and sinking of parts of the Earth's surface, will be understood. The shaking caused by an Earthquake can be explained, partially if not altogether, in a very simple manner; thus, while our Planet is moving spirally onward, a portion of a coating of the crust of the Earth, may suddenly shift its position, and set liquid matter under the surface of the Earth in motion, which, meeting with resistance, would shake that portion of the surface, under which resistance occurred, and if not effectually resisted, the fluid would burst forth. The shifting of a portion of a coating of the crust of the Earth, far away from Lisbon, for instance, may have set the water in motion, at the spot, where it was displaced, that is, where such shifting of matter occurred, and the direction of the oceanic fluid being towards Lisbon, the wave at that point meeting with resistance dashed over the land to the height of some sixty feet; the undulating motion of the sea in mass, possibly created irregular pressure at the bottom of the ocean, and may have set fluid matter under dry land in motion, so as to shake a large portion of the surface of our Planet, which kind of shaking of a large portion of our

Globe did occur, on the occasion of the great Earthquake at Lisbon.

In many cases of Earthquakes, the cause of them may arise, from unobserved occurrences of the nature instanced, which may take place thousands of miles off.

This course of reasoning, merely takes us back to what has already been assumed, which is ; our Planet at present, does not move, as it did move, before dry land appeared, and that since dry land appeared, its motion eventually became spiral ; that changes have been going on, from the first formation of our Globe, which have, from time to time, destroyed creation after creation ; that now, at the present time, a wet land and a dry land coating of the crust of the Earth, are being displaced and forced from north to south, and that in the course of such shifting, through the effects of unequal hydraulic pressure and action, our Planet is subject to irregularities, which affect its motion, and accelerate its speed. Astronomers are aware that the present year is shorter than it used to be ages ago ; they are aware, that the Moon's revolution is quicker at present than it used to be ages ago ; they are aware, that consequent upon the acceleration of the Moon's motion, that our Satellite is about four times its own diameter, in advance of the place it would have been in, had its motion not been accelerated. These circumstances, under the

new theory, can be thoroughly comprehended, for as the flanches of our Globe, (by which is meant "dry land") become reduced in height, age after age, the motion of our Planet becomes accelerated, so that thousands of years ago, our Earth in its monthly spiral path went rather closer to the Sun, and rather farther from the Sun, than it does now; as a necessary consequence, it may never be quite so hot, or never be quite so cold, relatively on the surface of our Planet, as it used to be ages ago.

The result seems to be clear, for till the Earth may again turn over in its monthly spiral path, its motion in space will be quicker and quicker, from age to age, and its year will grow shorter and shorter, and as its image the Moon merely imitates its motion, it will be found that the monthly revolution of our Satellite will grow shorter and shorter, while its speed will be gradually accelerated, till it will, in the course of time, be observed, that the Moon has gained another diameter in advance of its present position, so that as seasons are, may be, milder and later now, than they were a long time ago, they will be milder and later ages hence, than they are now. It can be seen from what has been said, that without the necessity of our Planet getting lighter or heavier, in order that man may be destroyed before the time of the next flood; changes may take place, so inimical to life, that all animal and vegetable matter may come to an end

long before the time when even all land may be submerged.

To illustrate, let us suppose that in the course of ages, all high mountains should crumble to dust, and be washed away, so that no dry land should be more than a few feet above the level of the sea ; it can be understood, that our Planet might, in such case, go through space, so rapidly, that the Moon might make its monthly journey in fourteen days, and that the Earth might make its annual tour round the Sun, in an hundred and eighty-two days, or in much less time ; the question then is, could man live under such circumstances, or under a more extreme case ; if it be believed, that he could not live, then it can be perceived, that although another flood may, and will most likely come, yet man may have passed away, ere the arrival of its epoch.

From generation to generation, man hath been told, that a great event is at hand ; but as it has never been clearly explained to him, how such great event will inevitably happen, he has ever been prone to believe, that he may not be a living witness, to what in a terrestrial sense may be termed, 'the Last Day ;' now, however, it will be evident to all, that a Last Day, on Earth, may come, in the life-time of any generation.

Thus the new theory, it is conceived, will be found to have the support of scriptural tradi-

tion of all nations; and the Greatness of God, and the littleness of man, will now more than ever be made manifest to all, throughout the World.

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8 *John S.*

THE MOON

IS THE IMAGE OF THE EARTH,

AND IS NOT A SOLID BODY.

No. 5.

THE MOON

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AND

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BY

THE LONGITUDE.

PAMPHLET THE FIFTH.

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We are told in astronomical works, that the celebrated Kepler was the first great man, who suggested the idea, that the Sun and the Moon were the cause of the Tides, but it was not it seems till the Gravity doctrine was introduced by Newton and subsequently attained its present assumed perfection, that the theory of the Tides became as is now conceived, thoroughly understood, and as cordially believed, unmistakably accounted for, by the joint and separate influence and power of the Sun and Moon.

Astronomers tell us that the power of the Sun to heap up the great waters is not so great as the power of the Moon, indeed, the power of the Moon to heap up the waters of the great Oceans is said to be more than twice as great as that of the Sun. Again :—Astronomers tell us, that when the Sun and the Moon are on the same side of the Earth as is the case at New-Moon time, the great waters get heaped up to a greater extent than ordinary, both in the direction of the Sun and the Moon, and in the opposite direction : a similar extra heaping up of great waters is said to take place at Full-Moon time, in the direction of the Sun as well as in the direction of the Moon. These Tides are called spring Tides.

At the time the Moon is in her First and in her Last Quarter, her power to heap up the great waters is alleged to be the same as before,

but as in this case she acts singly, and as at such periods the Sun acts singly likewise, the great waters do not get heaped up so high it is said, as when the power of the Sun and the Moon are combined, and Tides which take place in the vicinity of land under the separated influence of the Sun and the Moon are called Neap Tides.

Although the Scientific World is satisfied with this theory for want of a better, it will on close examination be found defective in essential points, for the Sun and the Moon, do not appear to cause that which they ought to effect, were the conception and what actually takes place, identical.

The whole world can readily understand, that even should the present old theory be defective, as all scientific men have been induced to believe in it, there will be a difficulty at first, in getting them even to listen to, much more to take a new theory into favorable consideration, for, however more perfect a new theory may be, there will always at first be a strong prejudice against innovation; thus he who propounds what is unlooked for and unexpected will ever most likely be subjected to disappointment.

Professor Faraday once observed. "A theory" "may be perfection as far as it goes, but a con-" "sideration going beyond it, is not for that" "reason to be shut out," let this just remark

plead for a fair hearing and an unbiased judgment on that which will follow.

Astronomers have laid it down as a general rule that in the Heavens in an astronomical sense, there is no up and down, and far away from the orbit of the Earth towards the Sun, or, far away from the orbit of the Earth in the opposite direction, such a theory may for the present at least be admitted, but it will not hold good with reference to the monthly motion of the Earth in its annual orbit, or to the daily motion of the Earth in its monthly path, for there is an alternate up and down weekly motion of the whole Earth in its monthly path, while there is a fourth or a sectional up and down movement of about six hours duration connected with the daily motion of the Earth. These up and down movements may be viewed as of a local nature pertaining to our Planet owing to its present peculiar outward formation.

As a miniature resemblance of the orbit of the Earth, under the new theory, let us take a cylinder of glass bent and united so as to make it an oval, like a hollow link of a chain, to represent in out-line that which Astronomers tell us is the form or shape of the orbit of the Earth, and which we are given to understand is not an exact circle. In or near the centre of this glass link, let a marble, or, pea, be placed to do duty

for the Sun :—the Earth and the Moon shall be represented by two glass beads, one rather larger than the other, the large bead, that is, the Earth bead shall be green, and the small bead, that is, the Moon bead shall be yellow. To start the Earth in its annual journey round the Sun, we will put the green bead on the surface at the outside of the glass tube, where it will rest on its side or equatorial part at an angle of $23^{\circ} 28' 40''$ with the South Pole pointing in a downward direction, when our Planet will be in a position of Full-Earth, the yellow bead resting on its side, at the same angle, with the South Pole pointing in an upward direction, we will place on the surface on the inner side of the glass link, where it will be New Moon, being nearer to the Sun than the green bead by the diameter of the cylinder of glass whatever size that may be. We will make our Lunar Month to consist of twenty-eight days to facilitate the process of easy reckoning. Thus in position and at its proper pitch, we will advance the Earth bead spirally on the glass tube so as to carry its South Pole onward and underward, that after turning round its own centre seven times in seven days it will have made a quarter of its monthly diagonal or spiral journey, and ever resting on its equator it will now stand on the surface of the lower part of the glass tube, where it will be the Earth

in its Last Quarter; the Moon bead at the same time following the direction, and imitating the movement of the green bead, will have advanced and moved overward, so that in seven days, it will have arrived at the top of the glass cylinder, where it will be in its First Quarter (having the Earth below it on the lower side of the cylinder in its Last Quarter as explained). The next forward move of the Earth will be from the lower surface of the tube, upward to the surface of the glass link on the inner side facing the Sun where after having travelled a second seven days it will be New Earth; the Moon bead at the same time will have travelled from the top of the tube overward to the out side of the link, where it will stand (opposite or nearly opposite to new Earth) as a Full Moon:—the Earth bead still advancing at its pitch of $23^{\circ} 28' 40''$ with the South Pole end ever leading the way round the Sun, now moves overward and in seven more days reaches the upper side of the glass link where it will stand in its First Quarter, the Moon bead at the same time will have moved forward underward and will stand on the lower side of the tube in its position of Last Quarter, (the Earth bead being above it in its First Quarter, on the upper side of the link as explained.)

The Earth bead will now move onward and overward to the outside of the tube, when after

another seven days it will stand once again as Full-Earth; the Moon bead at the same time will have moved up from underward, and will have arrived once more on the surface at the inner side of the glass link where it will be New-Moon. We have now made the Earth and the Moon, advance, from, 0, 0, the starting points, onward through space, to the extent of one thirteenth part of a year of what may be called Lunar time:—the remaining twelve Lunar Months journey will be performed in a similar manner, and when finished the Earth will have completed its annual tour, reckoned in Lunar time.

Adjustments of minor points, such as the real length of the year, why the twenty-sixth New Moon may not stand precisely at the starting point, or, exactly where the thirteenth New Moon stood, and so forth, are details which will be easily understood and soon mastered, as will the cause of the variation in solar days; the difference between solar and stellar time, the cause of eclipses, &c. &c., and that which Geometers call the square of the disturbing force, (which appears to be the same thing under another name as Clairaut's rejected square of the square) may at once be abandoned for its place is supplied by the new and real position given to the Earth, which in one sense enables her to divide the labour assigned to the Moon

under the old or present theory, while in another sense, it releases the Moon from the performance of three fourths of the labour she ought to perform, if she really circulated about the Earth at a distance of 237,000 miles.

Having made this explanatory progress, let us do away with the conception of a miniature representation, and school our ideas to the reality by expanding the glass cylinder to an ideal tube or real path in space, whose cylindrical diameter shall be 237,000 miles, the green glass bead we will convert into our real Earth, and the yellow glass bead we will transform into the image of the Earth, or in more common language it shall be the real Moon : the marble or pea which stood in, or, near the centre of the glass link will of course become the real Sun. If Geometers and Mathematicians will now apply the gravity theory to the Sun, and to the Earth and to the Moon in the new relative position given to the Earth and Moon under the new theory, it is predicted that it will fit all three bodies as completely as it has never fitted those three bodies under the old or existing theory, without the aid of "the square of the disturbing force," nevertheless and notwithstanding it may prove as predicted, it is considered that,

The gravity theory has been built upon sand,
And as science advances it never can stand.

But to proceed ; as the Earth moves away from the Sun, while winding its way in its annual course, the Northern Hemisphere will be presented to the Sun, and the Southern Hemisphere will be in a direction more or less away from the Sun, so in this case it will be Summer in the Northern half, and Winter in the Southern half of our Planet. The Earth in rounding to, at one part of its orbit, so as to bring the South Pole gradually in the direction of the Sun, will make it Autumn in the Northern Hemisphere and Spring in the Southern Hemisphere, and when the turn of direction has been completely effected, the Southern Hemisphere will face the Sun in its onward course and the Northern Hemisphere will be from the Sun, so that it will be Summer in the Southern half and Winter in the Northern half of our Globe ; as the Earth rounds to again, in another part of its orbit, so as to carry the South Pole gradually away from the Sun, it will become Autumn in the Southern Hemisphere and Spring in the Northern Hemisphere ; thus, this illustration will account for the seasons as they occur in all parts of the World.

A pause in progress is here made, to solicit the attention of Astronomers, Geometers, and Mathematicians, to the new position given, relatively, to the Earth and to the Moon, for it is conceived that if the gravity theory be applied to them, in

the true places they hold under the new theory, it will at once fit their new relative position, and account in a satisfactory manner, for the reason why the apsides move round in nine instead of in eighteen years ; for here again as in the case previously instanced, the application of Clairaut's rejected square of the square, or, of Geometers' square of the disturbing force, will be unnecessary. The earnest consideration of Astronomers is now specially required, to the peculiar mode or manner in which our Planet is constrained to move, according to the new theory, in order that the position of the Earth at different times while in its monthly path, may be kept present in the mind, that is to say, the attitude of our Globe in respect to the direction of the Poles, during its daily revolution and ever onward spiral progress, is what demands more than ordinary contemplation, to insure that which is to follow being easily comprehended.

EXPLANATION OF

1. The alternate set of the Sea from Pole to Pole.—In the monthly journey of the Earth from what has been said above, it will be observed, that while our Planet is moving from Full Earth to Last Quarter, the South Pole will be in the act of descending for about seven days, so that

the general Set of the Sea will be from North to South, the water, however, cannot rush the whole way straight to the South with overwhelming velocity for two reasons; the daily motion of the Earth will partially prevent its so doing by giving the Ocean a curved direction to the East, while the resisting medium through which our Planet is ever forcing its way, will in this instance, moderate the Set in a graduated manner, till the rise of the South Pole in going from Last-Quarter to New-Earth, will put a stop to the Sea going South-ward by giving the Ocean a Set to the North;—here again the water cannot make an unbridled rush to the North, for the daily rotation of the Earth will give it a curved direction to the East, but in this instance, instead of resisting medium gradually checking the progress of the Set, it will gradually help it North-ward, so that such Set of the Ocean will be stronger than the South-ward Set of the Sea, to the extent of the retarding and accelerating power of resisting medium: thus, why almost all land facing the South becomes pointed can be understood, for when the South Pole may be ascending for seven days at a time, the water has an outside force acting on its surface in the direction to which it is moving. As the Set North-ward is conceived to be stronger than the Set South-ward for the reason stated, it

must disturb any loose matter at the water-line, more particularly in the comparative vicinity of the North Pole, so that when the Set again changes to the South, as the South Pole descends from New-Earth to First-Quarter, the recoil of the water will correspond in power to the additional force which assisted it North-ward, and the water will of course carry with it in its return, any floating, dissolved, or suspended matter, which will be gradually deposited on the bed of the Ocean more or less South-ward, for, as already explained, resisting medium will help to give a gradual check to the Sea, each day during the period of its Set to the South-ward: thus in every alternate seven days, superficial matter is it is conceived, disengaged and brought from North-ward and deposited more or less South-ward, and if in the other alternate seven days this deposited matter is not as to the whole quantity again disturbed and carried North-ward, the South-ward Hemisphere must and will eventually become heavier than the Northern Hemisphere as pointed out in Pamphlet No 4.—Whether the table like bed of the Ocean, between Ireland and America has been formed, owing to the slow but gradual shifting of matter from a position previously further North-ward or not, is a subject which is left for Philosophers to determine.

Having explained one motion of the Sea by the term Set, to distinguish it from other general or local movements of the great waters on the face of our Planet, we will proceed to illustrate :—

2. The Currents of the Ocean.

The original Currents of the Ocean, if we may use such a term, will, owing to the daily motion of the Earth always be East-ward.—During the time the South Pole may be descending the Current will be South-East, and during the period the South Pole may be ascending the Current will be North-East.

These two great Currents will however in numerous instances get diverted after touching the land, so that Counter-Currents of a local nature may take place, so as to obliterate the direction of the original great Currents. That Head-Lands, Bays, Gulfs, Great Rivers &c., give special Currents to the water of the Ocean in their respective vicinity, can need no long explanation, but wherever there may be Currents which are not alternately South-East and North-East, scientific men on the spot will under the guidance of the new theory, be able to trace the cause of deviation.

We now come to our promised explanation of,

3. The Tides.

And should we succeed, with Astronomers, Geometers, Mathematicians, and Nautical men,

in so far as to get them to acknowledge the truth of our views, we shall be fortunate indeed:—it is now however more than ever necessary to bear in mind, that the Earth does not rotate and advance broad-side on in an inclined yet standing-up position like a top spinning on and round a table, but that it advances by the South Pole leading the way; the body of our Planet being in an inclined position as if ever floating or resting on a portion of its equatorial part:—after this caution we will proceed to illustrate. Let us commence with the East coast of England and as an example merely, suppose it to be a longitudinal line on the ascent for six hours, that is, on the ascent during a fourth of the Earth's daily revolution; the Sea facing the land, it being the time of low-water, if on the ascent likewise, ~~it~~ would not be able to get out of the way of the ascending coast quick enough to prevent the land overtaking the water, so that for six hours the land would be moving gradually faster than the water, and in common language the Tide would be running in, but in reality in this instance, it would be the land running into the Sea which would at the end of six hours make it high water. To go on with the Eastern coast of England; after having ascended for six hours, the East coast would commence a descent which would go on for six hours forming another or a

Second-Quarter of the Earth's daily revolution, and in this instance, if the water facing the land were to be descending likewise, it would move faster than the coast, so that the Tide would be what is called running out.

As the movement of the Sea would be only gradually faster than the land, it is easy to perceive that after a lapse of six hours the beach would be left dry:—for a third six hours the land and the water would be again ascending, when for a second time it would, in due course, become high-water; after which the land and the water would for a second time be descending, when in due course it would be low-water again.

Thus there would be two high Tides and two low Tides in a day of about twenty four hours—or during the period it takes the Earth to turn round its centre. For all Eastern Shores the above explanation may be taken for a general guide. When Western Shores commence to ascend for six hours, the time being that of high water, the Land will gradually leave the water till at the end of six hours it will be low Tide:—as Western Shores commence to descend for six hours, the time being that of low-water, the Sea will move faster than the Land and will gradually overtake the Shore, when at the end of six hours it will be high Tide; for the third six hours the Western Coast will for a second time

be ascending, and for the fourth six hours it will for a second time be descending, when in these second twelve hours there will be, subject to slight variation, a repetition of what took place in the first twelve hours. Thus high and low Tides on Eastern and Western Shores are in some cases produced from causes of opposite effect. The same point on the Earth's surface will ascend twice and will descend twice in about twenty-four hours, and it is most important to bear in mind, that the alternate ascent and descent of four sections of the Earth, for about six hours at a time, is caused by our Planet being unevenly weighted, through which circumstance it cannot advance by the South Pole at its pitch of $23^{\circ} 28' 40''$, for twenty-four hours together without being completely swung, or flung round its own centre—Shores lying North and South, according to their relative formation, will participate in what may take place East or West of them, nevertheless Tides on all open shores facing the North will be highest, on one side of our Globe, when at the time of high water, the South Pole may have completed its descent of seven days in its monthly spiral path and may be in the act of ascending, for at such epoch the Shore would be dipped into the already high-water, which would make it an extraordinary high Tide on one side of our Planet, while on the other side of our

Globe the Land would be pushed from the Sea, and high-water would be rather under the usual mark of an ordinary high Tide.

A similar effect will occur on Shores facing the North, when at the time of high water the South Pole may be in the act of descending, after an ascent of about seven days, for such comparative sudden change will make it very high Tide on one side of our Planet, while on the other side of our Globe, the high Tide would be less high than usual.

The alternate rise and fall of the South Pole every seven days, will have the same effect on Shores facing the South, if at the time of the rise or fall of the South Pole, it should happen to be high-water on Shores facing the South. Shores lying East and West may be affected by the rise or fall of the South Pole in the manner described, but as the change will have a side effect only on Shores lying East and West, the Land may possibly get less submerged at the time of high water, so that extraordinary high Tides East and West may not generally speaking be so high as extraordinary high Tides North and South. Doubtlessly there are many places on the Earth celebrated for remarkable high Tides, but of such many, there are three places noted for occasional extraordinary high water; these places we learn from history are as

follows :—Annapolis in the Bay of Fundy, where it is said, Tides sometimes rise to the height of over one-hundred feet ; now if this Bay be looked at on a Map or Globe, it will be observed that there is no out-let for the Sea towards the North, so that an up or down change of direction of the South Pole, occurring at the time of high-water in the Bay, would dip the Land in the already high Tide, or it would push the Shore from the Sea ; in one case the Tide would be unusually high, in the other case high water would be less high than an ordinary high Tide. The second place to be noticed is St. Malo, where Tides we are told sometimes rise very high, if the Bay of St. Malo be examined on a Map or Globe, it will be seen that there is no out-let for the Sea towards the South-East, so that a rise or fall of the South Pole occurring just at the time of high-water, the Land would get dipped into the high Tide or the Shore would be withdrawn from the Sea, and the result in either or both cases would be similar to the explanation above afforded ; it may however in this case be added that the Current from the Atlantic, on the dip of the South Pole, would set right into the Bay, judging from its Mouth being open towards the West, so that the South-East Current if assisted by a strong wind in its favor would most likely help to raise the Tide to an unusual height, at periods

such as have been selected for explanatory examples. The third case we are told of, is, that, at Bristol, the Tides sometimes rise as high as fifty feet; if we examine the Bristol channel on a Map or Globe it will be seen that its wide Mouth is open to the West-ward, so when Bristol may be descending for six hours, with the section of our Globe, to which for the time being it may belong, the descending water owing to the funnel like shape of the channel would second after second for six hours get contracted and thereby would get raised, particularly in going into the Mouth of the Severn which may be compared to the stem of the funnel like channel, moreover should the South Pole happen to be rising at the time of high-water the North-East Current accompanied by a high wind might aid at particular times in making an extraordinary high Tide in the River.

The weekly rise and fall of the South Pole, while our Planet is making its Monthly journey, must be kept distinct in the mind from the alternate ascent and descent of four sections of the Earth of six hours duration, while our Planet is swinging round its own centre in a day consisting of about twenty-four hours, for then it will be clearly seen how the weekly changes act and operate on the six hour changes. The weekly up and down North and South length-

way motion is connected with the onward spiral movement of the Earth, the six hour up and down East and West breadth-way movement of the Earth, is a motion brought about by our Globe being swung round in the continued advance of our Planet.

As the heavy side of our Globe is supposed to sweep round a centre it must move with greater force than the light side of the Earth, and if this should really be the case, it will account for Tides in the Pacific being of less force than Tides in other parts of the world, and which they are said to be. Tides in Rivers can afford little if any data for general rules, but a study of the new theory, will most likely enable practical scientific men to account for peculiarities and variations which occur and take place in different Rivers.

A change of the Moon, or a change of position of the marks or features of our Satellite will indicate a change in the position of the Earth, and if it can be traced by careful observation of the Moon, when the South Pole of the Earth may be ascending and when descending and when sections of the Earth may be ascending and descending, valuable information will ensue.

It will easily be seen, that if a fourth of our Globe composed of land and water were to commence a six hour ascent, that the water at the

surface East of an Eastern Shore could not be made to move so quickly as the Beach : On the other hand it will as readily be seen, that on a quarter of our Globe composed of land and water descending for six hours, that the water on the surface of the Sea to the West of a Western Shore, would throughout the six hours move quicker than the land ; now in the case of Sea to the East of Land, it will be observed, that just as the Shore has run into the water for six hours and made it high Tide, the Quarter of our Globe to which such section of land and water may belong will begin to descend, when the land in such race being unable any longer to overtake the water will get left behind. The descending water to the westward of descending land after running in upon the Shore for six-hours, and gaining each minute of such time upon the descending Beach up to the time of high water, will now meet with a check by the quarter of our Globe to which such land and water may belong, beginning an ascent of six hours ; in this uphill movement the Sea will no longer be able to over-run the land and will gradually get left behind.

In these cases how simple to the comprehension : That land ascending, should move by a quicker impulse than the surface of ascending water can attain, and that the surface of descending water,

should move by a quicker impulse than can be attained by land when descending. If it should so happen that Calais and Boulogne, that is the Western Coast of France, should for the time being belong to a descending section of the Earth, while the Eastern Coast of England might for the time being belong to an ascending section of our Globe, it would be high-water on both Shores about the same time, for the Land of England would be overtaking the water of the Sea, while the water of the Sea would be overtaking Land of France. This view of the case will be understood, on the principle, that the Sun (in common language) is rising and setting to some parts of our Globe throughout a day of about twenty four hours, for it is to be remembered, that the ideal lines which divide our Planet from Pole to Pole into four parts, are ever changing their position, so that owing to such alterations in the divisions of the Earth, a day high-Tide, and the high Tide at night which may succeed it will not be exactly the same, indeed, few Tides will exactly correspond, owing to the Earth being at every instant in a different position in space. It has been explained that High-Tides may occur on both the French and the English coast about the same time, and on the same principle it may sometimes be low-water at Calais and Boulogne, when it is low-water at Dover and Folkestone, and which would

occur if the Western coast of France should be ascending, while the Eastern coast of England might be descending: one of the divisions of the four sections of the Earth, would in such instance be for the time being somewhere between the two coasts.

After very high-water it is usual to have low-water lower than usual; this can be comprehended without difficulty, for the extra weight of water after a very high-Tide on an Eastern Shore, would move unusually fast in the descent of both land and water, so that at the end of six hours the low-Tide would be very low. On a Western Shore after a very high-Tide, both land and water would be on the ascent for six hours, and owing to the extra weight of water, the land would gain more time than usual in the uphill race, so that at the end of six hours the Tide would be a very low one: On the same principle lower-Tides than usual will occur on Shores North and South after very high Tides.

The effect of the movements and motion of the Earth on the principle of the new theory, ought it is conceived to be sufficiently marked in the Mediterranean and in other inland Seas, to corroborate our views: On the South Shore as at the North Shore of the Mediterranean there is, it is conjectured, an alternate rise and fall of the Sea for about seven days at a time, caused by

the rise and fall of the South Pole of the Earth in its Monthly course ;—on all Eastern and Western Shores of the same Sea, there will be a rise and fall of water of about six-hours duration each, owing to the daily motion of the Earth, and these last which are to be looked upon as the Tides of the Sea, will in respect to East and West, be sometimes high on the one Shore and low on the other, or high or low at the same time according to the section or sections of the Earth, to which the many Shores may relatively belong for the time being ;—from the explanation given it will be perceived, that the water in the Red Sea and the water in the Mediterranean, if sometimes at the same level cannot always be so at their nearest Shores, for high-Tide in one Sea when it may be low-Tide in the other would it is concluded make a difference ; whereas high-Tides and low-Tides occurring at the Head of both Seas at one and the same time, might place both bodies of water on a level for the time being :—a belief exists, judging from history, that there is scarcely any rise and fall of water in the Mediterranean, and it may be so, but any rise and fall which may exist in that, or in other inland Seas, will it is inferred take place on the principle herein suggested. From an attentive consideration of the new theory it will appear evident, that there is no necessity what-

ever for the great waters of the Ocean to get heaped up, in order to cause high and low-water near the land, consequently the idea that the Sun and the Moon gather up the great waters on the face of our Planet to effect such phenomenon, can be dispensed with:—it will too appear more than likely, that the action and re-action of the Tide water have not time to be effected by the centres of great Oceans, for a high-Tide is cancelled by a low-Tide, and a low-Tide is cancelled by a high-Tide, with such comparative rapidity, yet in such a graduated manner, that the effect one way or the other may not be felt far out at Sea:—if therefore the waters in centres of great Oceans do really rise and fall, it would be caused by the rise and fall of the South Pole in alternate weeks, in the Monthly progress of the Earth. It may hereafter form a pleasing study for Philosophers to determine, whether the Tides running out on Eastern Shores, may not be counter-balanced or checked, by the lagging of the water which cause low-Tides on Western Shores, and whether the running in Tides on Western Shores, may not be checked or counter-balanced, by the lagging of the water, in what is erroneously called the running in Tides on Eastern Shores, so as in some measure to regulate the daily motion of our Planet, by preventing it from swinging round too fast for any

length of time together, for it will be understood, that the force which first made our Planet move onward in its annual orbit after its present kind of outward formation, if not regulated in some way or other, might have gone on gaining power over our Globe, so as to have made it advance and rotate faster and faster after it had once been set in motion.

It has been suggested in Pamphlet No. 4, that our Planet will move faster and faster, from age to age, as the height of land becomes reduced, but such acceleration has been, and will be very gradual, so that the conceived regulator may not lose its controul, till just prior to the whole upper crust of the Earth giving way and taking up a new position by overturning our Planet.

The explanation, of the set of the Sea from Pole to Pole, of original Currents of the Ocean, and of the Tides, would be incomplete were the great Gulf stream to go unnoticed. If we examine the Gulf of Mexico, we shall see and find its water in a great basin, the land or dry side of which is lying far back to the Westward, so as this Western side of the great basin is from its position, owing to the daily motion of the Earth, raised or lifted up as our Globe goes round, far above or higher than any other part of the margin of the Eastern Coast of the New-world, it is perpetually pouring its water into the Atlantic,

for let it be understood, that this perpetual outpouring is kept up by the perpetual advance of the land or great basin, which scooping up the Sea in its rotating onward course, keeps itself perpetually full, from the Sea ward side of the basin being under water, wherefore it can be perpetually emptying itself into the great Ocean. Common Tides which may take place in the Gulf, owing to the alternate ascent and descent of sections of our Planet may not affect this view of the case, for a rise or fall of water, to the extent of fifteen or twenty feet near the dry edge of the great basin, would never possibly be felt at the Mouth of the Gulf, where the stream would form a portion of the original great Current of that part of the Ocean, ever having its course Eastward. The great Gulf stream, although it strikes across the Atlantic, will be more or less affected by the weekly rise and fall of the South Pole, for by the rise of the South Pole the set of the Ocean will carry its warm water to the North-Eastward, and by the fall of the South Pole the set of the Ocean will carry its warm water South-Eastward.

Notwithstanding what has been said, it may of course be possible that the great stream may only flow out of the Gulf every six alternate hours, that is, at the time when the Gulf of Mexico may belong to a section of the Earth

which may be descending for six hours at a time, and if such should be the case, it would prove, that while the Gulf may belong to a section of the Earth which might be ascending for six hours at a time there would be no outpouring ; so, under such a circumstance, the great Gulf stream would be in a state of what may be called slack water every alternate six hours. From historical accounts of the great Gulf stream, we are, however, led to suppose that the flow across the Atlantic is continuous, but as observed it may be otherwise. It will be evident to Astronomers, that as the Earth under the law of the new theory has a monthly path assigned to it ; in radius distance 118,500 miles from its astronomical orbit, our Planet at the time of New Earth will be nearer to the Sun by 237,000 miles than it will be when standing in the position of Full-Earth, and if the Sun's place be calculated with reference to the daily position of the Earth in its monthly spiral path, it is predicted, that what in astronomy is known as 'the monthly equation of the Sun's apparent motion as seen from the Earth,' will fit our Planet as it moves in its New path under the law of the new theory, without the application of 'the Geometers square of the disturbing force' for its direct semi-circular distance will gradually increase from, 0, to rather less, or, about 355,500 miles, when it will gra-

dually decrease in direct semi-circular distance, from rather less, or, about 355,500 miles to 0. As a general rule, if Geometers will place the Earth 118,500 miles on one side of the present astronomical orbit of our Planet, and will place the Moon 118,500 miles on the opposite side of the present astronomical orbit of our Planet, so that the Earth and the Moon may be 237,000 miles apart, the results of all astronomical calculations, will it is concluded, come out all right, and in no one case where 'the Geometers square of the disturbing force', is now used to bring matters correct will its application be necessary.

The fore going remark induces us to point out what we believe to be a grave error which exists in the Geometrical or Mathematical branch of astronomy; it is an error which we conceive has completely misled Astronomers from the commencement of the gravity theory to the present time, what is alluded to may be thus explained.

There is reason to believe that the Mathematicians who undertook to lay down a path for the Earth on scientific principles, did so on the understanding that our Globe was to be viewed as a perfect sphere evenly weighted from its centre to its surface.

Had such been the case, that is to say, were the Earth a perfect sphere and evenly weighted from its centre to its surface, the path of our

Planet would be in the centre, between where the Earth and the Moon now are, which is, it is believed, the present identical astronomical path assigned to our Globe. To enable the Earth to move in this perfect astronomical orbit it would be absolutely necessary that all land should be evenly submerged; that an even coating of water should cover the face of our Planet and that our Globe should be evenly weighted from its centre to its surface.

In such a perfect state of affairs, the foot of man would have no resting place to enable him to bear witness to the phenomenon, the year would be quite different to what it is and there would be no Moon for our satellite marks the opposite boundry of the Earth's monthly spiral path and in her soft and silver face, we see the limit to our tabular range of the Heavens.

We will now study to make the new theory intelligible by explaining, why it is that only one side of the Moon is seen from the Earth: to effect this we must again refer to the miniature of our portion of the solar system, that is to say, we must again refer to the glass link, to the two beads and to the marble or pea.

To illustrate.—First let it be remembered, that the Earth under the law of the new theory moves round the Sun in quite a different attitude to what it does under the law of the old or present

theory ; thus as the Earth or green bead winds its way round the glass link in going away from the Sun, the Sun will shine on its Northward hemisphere, and it will be summer in the Northward half, and winter in the Southward half of our Globe so that in this summer position of our Planet, the Moon will be nearer than the Earth is to the Sun, for let it not be forgotten, that the yellow bead is ever following the green bead, as in diameter distance it is always 237,000 miles behind it, while in direct semi-circular distance it will always be about, or rather less than 355,500 miles behind it ; and as the two bodies or beads start from opposite sides or centres of the glass tube of the link, there will be two distinct spiral paths traced on the tube, one by the green bead leading, and one by the yellow bead as it follows, both having their own diagonal direction and ever being at the same or starting distance apart :—thus it will be understood, that in looking direct across the transparent tube from the green bead, the yellow or Moon bead, at all times when not new Moon and invisible, will be seen 237,000 miles off. From the long start a head of the green bead and from the diagonal manner in which it moves, the South-Poleward hemisphere will always be covered by the North-Poleward hemisphere, so that it is impossible for the Southward portion of our Globe, which is ever

to the front, to be imaged to the rear of the North-Poleward hemisphere,—thus then it will be evident that the Moon is the image of the North-Poleward hemisphere, and that as the Earth advances in its annual course its North-Poleward hemisphere is ever end-on while being withdrawn from space, so that if half our Globe is imaged to the rear, it can only be a likeness of that half which is ever to the rear, and which is the North-Poleward hemisphere.

We repeat here, in spirit though not in exact words, what has already been advanced in a previous Pamphlet, which is ; that if the Moon be carefully examined and watched, it cannot fail to be observed, that it has an end-on daily rotation, and that on favorable occasions of its rising and setting, half its gradual rotation will be perfectly distinct even to the naked eye. Having brought to notice that in a Northward hemisphere Summer-time, the Moon will be closer than the Earth to the Sun, we will now remark that in a Southward hemisphere Summer-time, the Moon will be farther than the Earth is from the Sun, for the South-Poleward hemisphere at such period will be running up towards the Sun, and as the Moon can only follow the North-Poleward hemisphere it must of necessity be to the rear of the Earth.

If scientific men will take into consideration what must and can only be the position of the North-Poleward end of the Earth as it moves spirally under the law of the new theory, from Spring to Summer, from Summer to Autumn, from Autumn to Winter, and then again to Spring, &c., what are called the librations in latitude and longitude will be clear and comprehensible, for the attitude of the Earth as it moves round the Sun over its tubular like annual orbit will, with reference to the Sun's station, differ from day to day and if the attitude of the whole Globe changes, the attitude of the North-Poleward hemisphere must as a portion of such Globe, change too. In the part of this little book where the glass link &c., is first introduced to notice, we represented the yellow glass bead as having a South-Poleward end, which was done specially to show its direction of movement, for it will be evident from our explanation of what the Moon is, that as the South-Poleward end of the green bead can never be seen from a position in rear of the North-Poleward end of the green bead, there can be no South-Poleward end to the yellow bead; but we must so far qualify our remark, as to let it be understood, that if there should be any portion of the South-Poleward hemisphere which the North-Poleward hemisphere will not conceal, such as high mountains, then an image of them

would be formed and they would appear at the time of eclipses of the Sun as projecting points or as a serrated edging to the Moon:—the velocity of the Earths daily rotation, and consequently of the Moons daily rotation will most likely prevent the image of such mountains being seen at Full-Moon time.

We have purposely used the expressions of Northward and Southward hemispheres as distinctive, for the Moon is not to our belief, an exact image of the Northern hemisphere, for as already stated in another Pamphlet, we are disposed to consider that the Moon is the image of the heavier half of our Planet, wherefore an image of the greater part of dry land will ever be in view at the time of Full-Moon, and from time to time by reason of the librations of our satellite, an image of all, or almost all of large masses of land will come into the picture. Some idea of our conception may be formed by supposing a stiff wire or knitting-needle to be passed through a small Globe from Pole to Pole, and a second stiff wire or knitting-needle to be passed through the same Globe at the Artic circle, at about longitude 150° West, so as to come out at the Antarctic circle at about longitude 30° East, if then the Globe be made to turn round its centre by moving both the stiff wires, nearly all the dry land will be on one half of the Globe, or will be

so to appearance, the water half therefore will meet the meaning of our South-Poleward end, as it will be the leading half of our Planet:—this clause must not be taken as positive but merely as suggestive.

The Moon is said to lie at an angle of $5^{\circ} 8' 48''$ to the Ecliptic that is to say, to the astronomical Ecliptic under the law of the old or present theory. Here again the new theory will easily explain itself, for it will be evident that the outer line of the link will be greater than the inner line of the link, the link itself is not an exact circle, and the Sun is not exactly in the centre of the Earth's orbit, moreover, the Moon is always indirectly to the rear of our Planet, so that as the Earth and the Moon are always on opposite sides of the tube of the glass link, it stands to reason that with reference to the Sun's place, there must always be angular distance between the Earth and the Moon, as they stand in relation to a point in the tube exactly between the two, for such central point is on the line of the present erroneous astronomical orbit of the Earth, indeed it is more than likely that it will be found that the Earth itself, has her own separate Share of angular distance. We have ascribed the error which exists, as to the Earth's orbit, under the law of the gravity theory to the supposition that in laying down an orbit for the Earth on scientific

principles, that Geometers had viewed our Globe in the light of a perfect sphere, and evenly weighted from its centre to its surface:—but on further reflection, we have cause to believe, that we have given Geometers too much credit in having supposed that they ever took the form or weight of our Planet into special consideration at all, for the path, the Earth is believed to move in, is it seems from astronomical works, the path the Sun would move in, if it went round the Earth, instead of the Earth moving round it?

The origin of the mistake, is therefore clearer even than it was before under the first and liberal supposition, for on the gravity theory being applied to the Sun and to the Earth, a discrepancy it seems was at once the result, and that too, to the extent of 354,936 to 1.—To reconcile this extraordinary error, the Sun was conceived to be equal in weight to 354,936 Earths, and from this remarkable astronomical view of the case, the centre of gravity was imagined to lie 267 miles from the Sun's centre.

The truth, however, seems to be, the figures 354,936 have nothing to do with weight, for they constitute the Sum in miles, of the direct semi-circular distance of the Earth's monthly orbit, and prove as far as figures can do, that under the law of the new theory, the radius distance of the real spiral orbit of the Earth, is 118,500

miles distant from the astronomical line or orbit, which in effect, is viewed by Astronomers as the Sun's path.

Hence-forth Astronomers, Geometers, and Mathematicians must make a wide and clearly defined distinction between what would be the path of the Sun, and what is the path of the Earth, for it will be self evident, as the diametre of the Sun, is under the law of the new theory, considerably more than three times the diametre of the Earth's tubular monthly orbit, it could not move spirally in such track as the Earth does, for the Sun would greatly overlap on all sides, the whole breadth and depth of the monthly walk of our Planet.

Taking our Planet as it is:—a very small Globe as compared to the Sun, there is ample space for it to make spiral curves, and to rove through the Heavens in a walk 237,000 miles in diametre, and which would only suffice to form a path for that portion of the Sun, which is 118,500 miles on each side of its centre, for as above explained, all the other parts of the Sun would be out-side the joint monthly walk of the Earth and the Moon.

How it might be asked, can simple astronomical calculations be otherwise than incomplete, when great Mathematicians decreed, that the path the Sun would move in if it went round the

Earth, should be considered the path of the Earth, on their decreeing that the Earth moved round the Sun. As well might it be affirmed, that an exact path for a twenty four pound shot, must necessarily be an exact path for an unevenly made swan-shot, and that because the cannon ball had not room to move right or left in its walk, that therefore there could not be room for the swan-shot to move right or left in that very same path. Let Astronomers think of the great size of the Sun and of the comparative littleness of the Earth, and let them at the same time recollect that our Globe is not a perfect sphere, and that it must be in its present state unevenly weighted, and they will at once feel assured, that the centre of the Earth, cannot move in that smooth line, the centre of the Sun would move in, if the Sun were to move in the Ecliptic round the Earth.

It will readily be admitted by the scientific world that the real forces called gravity existed ages and ages before Newton was born or thought of, and if the Gravity idea be abandoned, the same real forces which existed before the birth of the Gravity theory, will still continue as long as the Earth may be a Planet, such as it is at present; it must therefore be comprehended that what is deemed wrong in the old or present theory, is merely the astronomical explanation

of the working of forces which have no existence excepting in the Gravity conception. The position of the Earth as it stands under the law of the new theory, will render the forces created in the imagination of man, to pull and push Heavenly Bodies out of fictitious places, to get them in to their own real places, useless ; for the results of simple correct astronomical measurements, will come out perfect without the aid of the 'Geometers square of the disturbing force' to bring right what had been made wrong, solely by the faith reposed in an erroneous Base Line. If it should so happen that the new theory should overthrow the doctrine of the Gravity theory, there is nothing that we know of to prevent the new theory itself being overthrown in its turn, for who would ever presume to say, he has a perfect knowledge of the works of the Almighty.

We will now claim a minute more of the attention of Astronomers that we may support the view expressed in Pamphlet No. 4. They know that the Earth's orbit from the form of an oval is becoming more and more of a circle from age to age, this we may remark is a clear indication that the Earth itself is becoming from age to age more and more a perfect sphere ;—they know that the Ecliptic is from age to age becoming more and more in a line with the Equator, which is we beg to add, an evident proof that the Poles

of the Earth are from age to age becoming more and more perpendicular to the Ecliptic.

From such facts as these what can Mathematicians infer, but that the upper coating of our Globe must shift its position some minute, and any minute between the present time and 127,205 years. True, our Planet as a Planet may last for millions and millions of years, or for ever; but the probability is, the present creation will pass away long before an Hundred thousand years, for it would be unreasonable to suppose that dry land could hold its present position, if the inclination of the Earth should become much less than it is. That the inclination of our Globe will increase again while the present Creation is in existence, there is apparently no cause to suppose; the opinion of Lagrange and Laplace to the contrary notwithstanding.

To conclude:—for the fifth time, we have pushed our little Barque into the Celestial Sea, and confidently hope, that the Tides, which it is trusted have been satisfactorily accounted for, may float it, by the light of our Moon, into the True Astronomical Harbour.